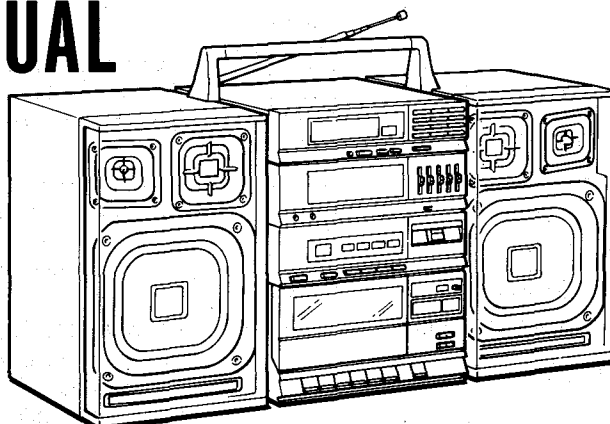


FH-204

SERVICE MANUAL

AEP Model



Dolby noise reduction manufactured under license from
Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol  are trademarks of
Dolby Laboratories Licensing Corporation.

- FH-204 consists of ST-209, DXA-204
and APM-205.

CONTENTS

FH-204	<i>Page</i>	ST-209	<i>Page</i>
FEATURES	2	REPAIRING PRECAUTION	ST-1
SPECIFICATIONS	3	1. ELECTRICAL ADJUSTMENTS	ST-2
LOCATION AND FUNCTION OF CONTROLS ..	4	2. DIAGRAMS	ST-5
EXPLODED VIEW AND PARTS LIST	6	2-1. MOUNTING DIAGRAM	ST-5
		2-2. SCHEMATIC DIAGRAM	ST-7
		Semiconductor Lead Layouts	ST-9
		3. EXPLODED VIEW AND PARTS LIST ...	ST-10
		4. ELECTRICAL PARTS LIST	ST-11

— Continued on page 2 —



COMPACT HI-DENSITY
COMPONENT SYSTEM
SONY®

AUD

DXA-204*Page*

1. ADJUSTMENTS	DXA-1
1-1. MECHANICAL ADJUSTMENTS	DXA-1
1-2. ELECTRICAL ADJUSTMENTS	DXA-1
2. DIAGRAM	DXA-5
Semiconductor Lead Layouts	DXA-5
2-1. MOUNTING DIAGRAM	DXA-5
2-2. SCHEMATIC DIAGRAM	DXA-9
3. EXPLODED VIEW AND PARTS LIST ..	DXA-13
4. ELECTRICAL PARTS LIST	DXA-19

APM-205

1. DISASSEMBLY	APM-1
2. WIRING DIAGRAM	APM-1
3. EXPLODED VIEW AND PARTS LIST ..	APM-2

FEATURES**Compact hi-density component system**

FH-204 consists of an FM stereo FM-AM tuner and a stereo cassette deck amplifier.

Tuner section

- **Preset function** stores a total of 20 stations in memory.
- **Preset-station-scanning function** helps you search for a desired program.

Amplifier section

- **A 3-band graphic equalizer** for adjusting tone quality during both recording and playback.
- **DOL (Dynamic Optimum Loudness)** for obtaining sufficient bass sounds.

Cassette deck section

- **Auto-reverse function** for playing back both sides of a cassette continuously.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SPECIFICATIONS

ST-209

Tuner section

System FM stereo, FM/AM superheterodyne tuner
Quartz-locked PLL digital synthesizer system

FM tuner section

Tuning range 87.5 – 108 MHz
Antenna Telescopic antenna
Antenna terminals 75 ohms unbalanced
Intermediate frequency 10.7 MHz
Usable sensitivity 2.3 μ V (S/N = 30 dB/75 ohms)
Signal-to-noise ratio 78 dB (mono), 70 dB (stereo)
Harmonic distortion at 1 kHz 0.2% (mono), 0.5% (stereo)
Separation at 1 kHz 40 dB
Selectivity at 400 kHz 55 dB

MW/LW tuner section

		MW	LW
Tuning range		522 – 1,611 kHz	144 – 288 kHz
Antenna		Built-in ferrite bar antenna External antenna terminal	
Intermediate frequency		450 kHz	
Usable sensitivity	Built-in ferrite bar antenna	250 μ V/m (999 kHz)	500 μ V/m (230 kHz)
	External antenna	100 μ V (999 kHz)	150 μ V (230 kHz)
Signal-to-noise ratio		52 dB (50 mV/m)	
Harmonic distortion		0.3% (50 mV/m, 400 Hz)	

General

Dimensions Approx. 215 × 55 × 240 mm (w/h/d)
(8½ × 2¼ × 9½ inches)
incl. projecting parts and controls
Weight Approx. 0.9 kg (2 lb) net

DXA-204

Cassette deck section

Recording system 4-track 2-channel stereo
Frequency response DOLBY NR OFF (DIN)
TYPE II cassette (Sony UCX): 40 – 15,000 Hz (±3 dB)
TYPE I cassette (Sony HF-S): 40 – 14,000 Hz (±3 dB)
Wow and flutter 0.09% WRMS
± 0.3% (DIN)

Amplifier section

Continuous RMS power output 25 + 25 watts (6 ohms, at 1 kHz, 5% THD)
18 + 18 watts (6 ohms, 40 Hz – 20 kHz, 1% THD)
Music power output 80 watts (6 ohms)

Inputs

	Sensitivity	Impedance
PHONO (phono jacks)	2.5 mV	50 kilohms
CD/AUX (phono jacks)	450 mV	50 kilohms
MIC (minijack)	1 mV	600 ohms

Outputs

PHONES (stereo minijack)	Accepts headphones of 8 ohms or more
SPEAKER	Accepts speakers of 6 to 16 ohms

Frequency response

PHONO: RIAA curve ± 0.5 dB
CD/AUX: 40 – 30,000 Hz ± 0.3 dB
MIC: 100 – 10,000 Hz ± 0.3 dB

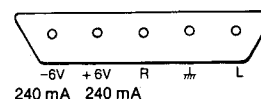
Dimensions

Approx. 215 × 235 × 250 mm (w/h/d)
(8½ × 9½ × 9¾ inches)

Weight

incl. projecting parts and controls
Approx. 5.0 kg (11 lb 1 oz) net

5-pin DC output connector of DXA-204 to ST-209



APM-205

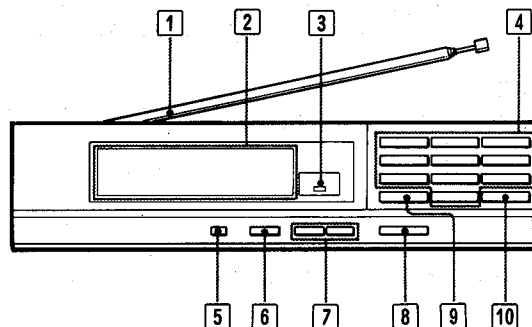
Speaker system	3 way speaker system
Speaker units	Woofer: 134 cm ² , APM type Tweeter: 5 cm dia., cone type Super tweeter: 3.5 cm dia., ceramic type
Enclosure type	Bass reflex
Frequency range	60 - 20,000 Hz
Sensitivity	88 dB/w/m
Impedance	6 ohms
Dimensions	Approx. 175 × 290 × 220 mm (w/h/d) (7 × 11½ × 8¾ inches)
Weight	Approx. 3.0 kg (6 lb 10 oz)

GENERAL

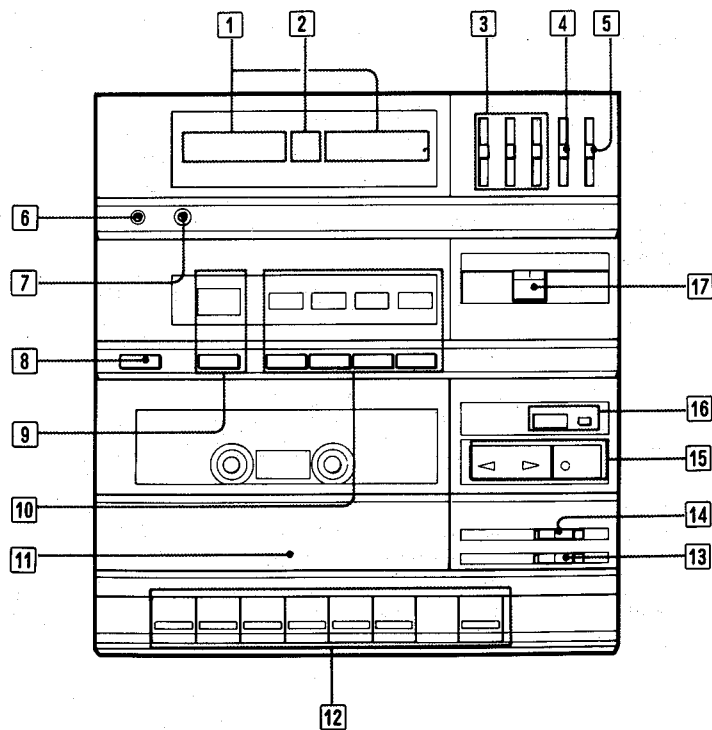
Power requirements	220 V AC, 50/60 Hz
Power consumption	70 watts
Dimensions	Approx. 585 × 355 × 250 mm (w/h/d) (23½ × 14 × 9⅞ inches) incl. projecting parts and controls
Weight	Approx. 12.6 kg (27 lb 13 oz) net Approx. 14.4 kg (31 lb 12 oz) in shipping carton

LOCATION AND FUNCTION OF CONTROLS

TUNER

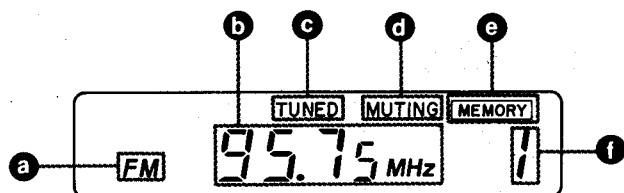


CASSETTE DECK AMPLIFIER



TUNER

- 1 Telescopic antenna
- 2 Display window



- a BAND indicator
 - b FREQUENCY indicator
 - c TUNED indicator
Appears when a signal is tuned in.
 - d MUTING indicator
Appears when the STEREO/MUTING switch is pressed.
 - e MEMORY indicator
Appears when the MEMORY button is pressed.
 - f PRESET (preset channel) indicator
- 3 STEREO indicator
 - 4 PRESET (10-key station preset) selectors
Used for quick tuning of frequently used radio stations.
See p. 10 for instructions.
 - 5 STEREO/MUTING switch
Normally keep this button engaged to eliminate FM interstation noise while tuning from station to station. (The MUTING indication appears.)
Press to disengage when listening to the noisy FM stereo program. There is no stereo effect, but the reception will be improved.
 - 6 BAND selector
Each time it is pressed, the band changes in the following sequence.
FM → MW → LW
↑
 - 7 TUNING + and – buttons
Use to change radio stations.
 - 8 MEMORY SCAN button
Press to scan the preset stations.
 - 9 MEMORY button
 - 10 ENTER button
Completes preset station selections.

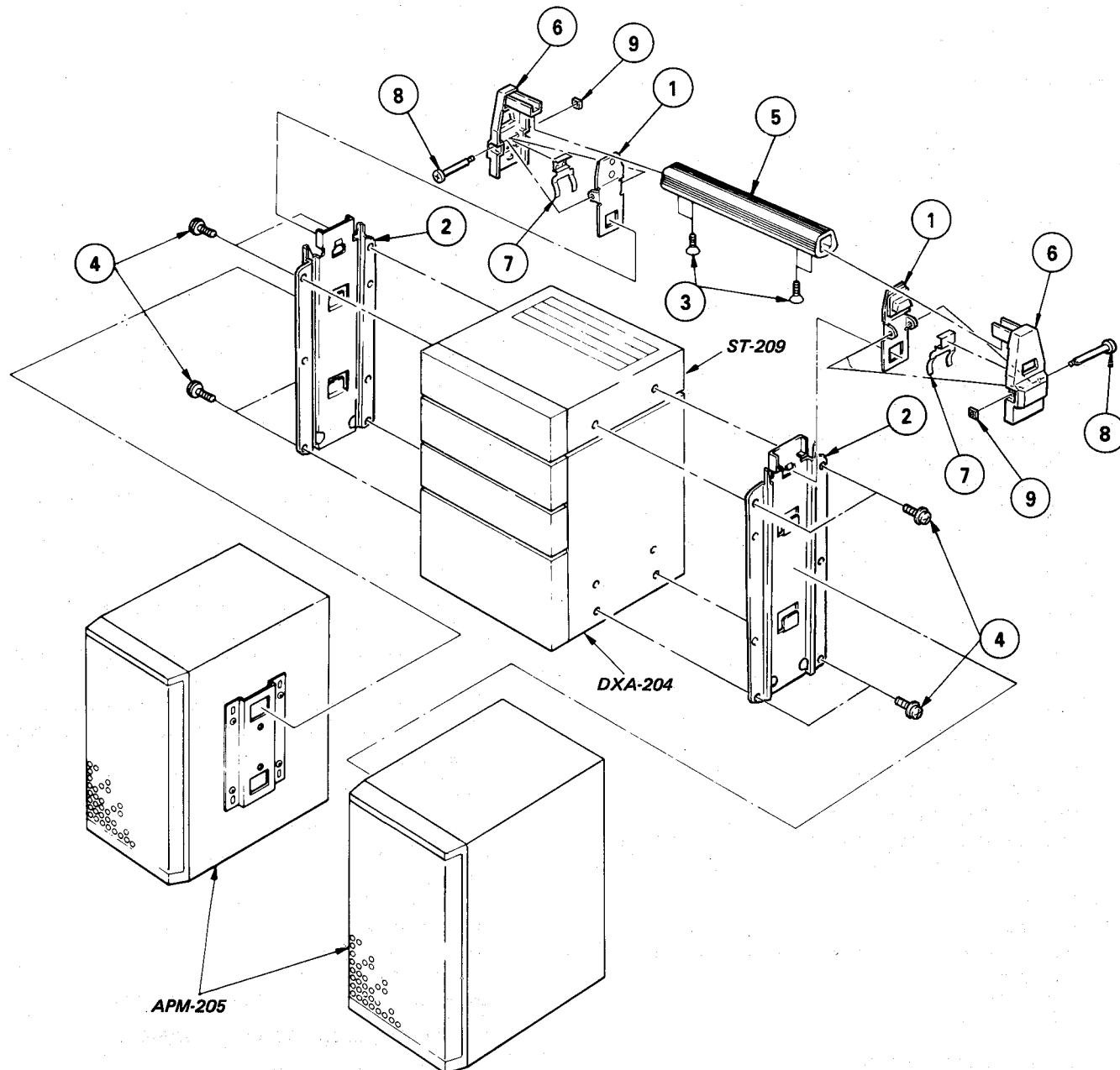
CASSETTE DECK AMPLIFIER

- 1 LEVEL INDICATOR
Indicates the sound level.
- 2 POWER indicator
Lights up when the system is turned on.
- 3 GRAPHIC EQUALIZER controls
Allow you to control tonal quality to your preference.
- 4 BALANCE control
Changes relative strength of right and left speaker output. Use to correct stereo imaging, especially when the speaker position is not symmetrical.
- 5 MIC LEVEL (microphone level) control
- 6 PHONES (headphones) jack (stereo minijack)
- 7 MIC (microphone) jack (minijack)
- 8 POWER switch
- 9 DOL (Dynamic Optimum Loudness) button and indicator
Reinforces bass sound in listening. To disengage the button, press it again.
- 10 FUNCTION select buttons and indicators
TAPE: Press to listen to tapes.
CD: Press to listen to or to record from compact discs or auxiliary sources.
TUNER: Press to listen to or to record radio programs.
PHONO: Press to listen to or to record from phonograph records.
- 11 Cassette holder
- 12 Tape operation buttons
 - ▲ STOP/EJECT
 - REC (record)
 - ▶ PLAY (playback)
 - ◀◀ REW (rewind)
 - ▶▶ FF (fast forward)
 - || PAUSE
 - ◀|▶ DIRECTION (tape transport direction)
- 13 DOLBY NR* (noise reduction) switch
- 14 DIRECTION MODE selector
- 15 MODE INDICATOR (◀, ▶, ●)
- 16 TAPE COUNTER and RESET button
Use to index and quickly locate desired points on tape. RESET button returns the counter to 000.
- 17 VOLUME control

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

EXPLODED VIEW AND PARTS LIST



No.	Part No.	Description
1	X-4919-631-1	SEESAW ASSY
2	4-920-120-01	PLATE (A), SIDE
3	7-685-247-29	SCREW +KTP 3X10 TYPE2 SLIT
4	X-4910-086-1	SCREW ASSY, SIDE PLATE
5	2-249-402-21	HANDLE
6	4-910-361-11	HOLDER, HANDLE
7	4-902-942-03	SPLING, LEAF
8	4-884-805-21	SHAFT
9	4-884-801-11	NUT, PLATE

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-701-613-00	BAG, POLYETHYLENE
3-701-630-00	BAG, POLYETHYLENE (FOR MANUAL)
3-769-004-11	MANUAL, INSTRUCTION
4-920-151-01	(DXA-204) ...SHEET, PROTECTION
4-884-884-00	(ST-209) SHEET, PROTECTION
4-920-151-00	(APM-205) ...SHEET, PROTECTION
4-920-121-01	CUSHION
4-919-626-01	INDIVIDUAL CARTON
9-911-842-XX	CUSHION (F)
3-769-004-41	MANUAL, INSTRUCTION

FH-209W
FH-204

FM STEREO/FM-AM TUNER (ST-209)

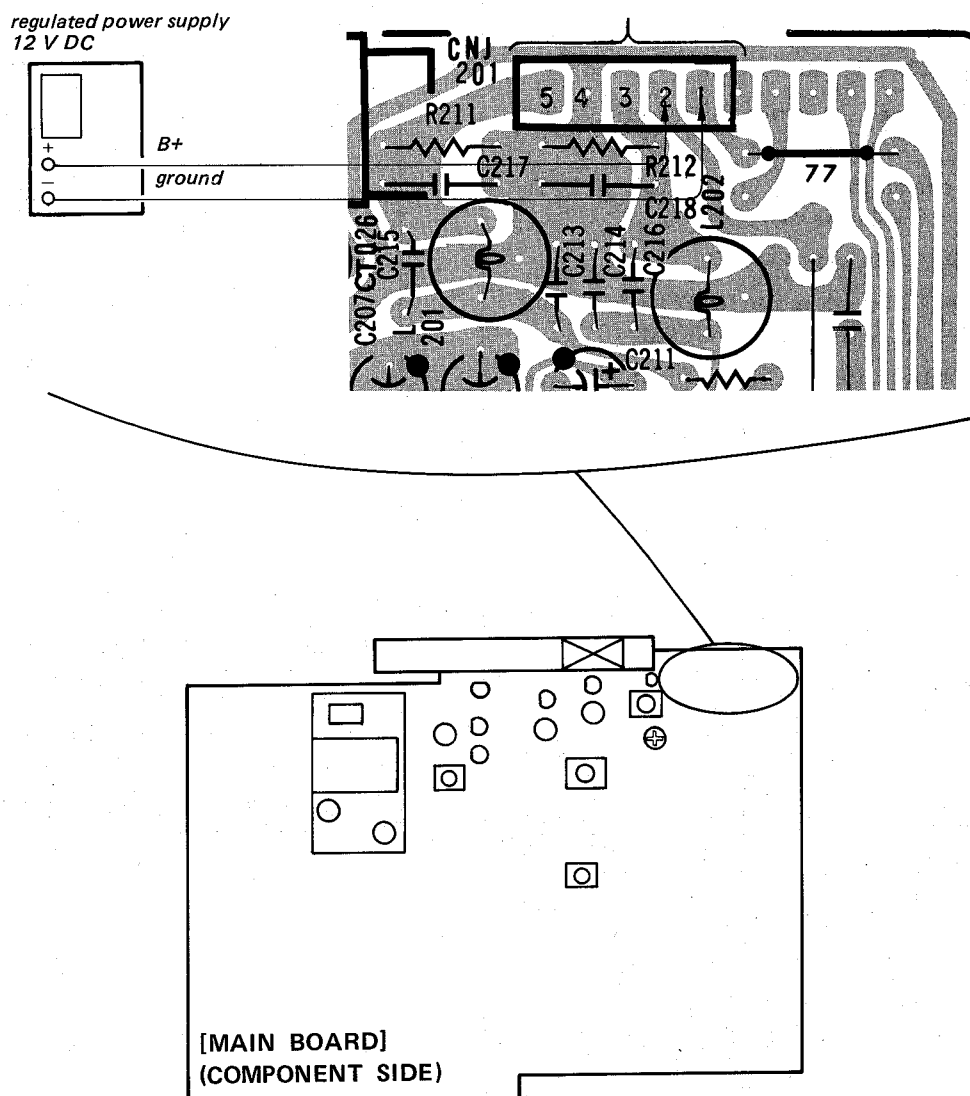
AEP Model
UK Model

REPAIRING PRECAUTION

[To apply B+ voltage]

The power of this unit is fed from other unit.

When the unit operates individually, connect the regulated power supply to the point as shown in the below fig.



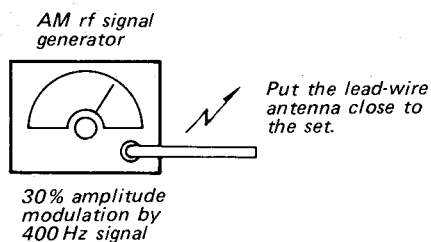
SECTION 1

ELECTRICAL ADJUSTMENTS

AM SECTION

Setting:

BAND selector switch: MW or LW



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

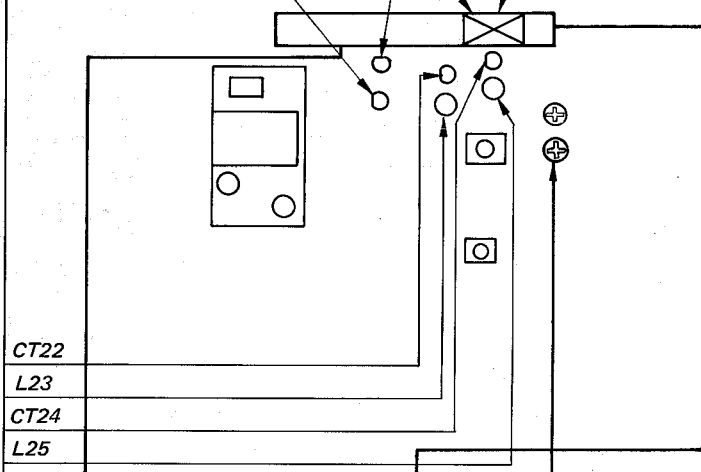
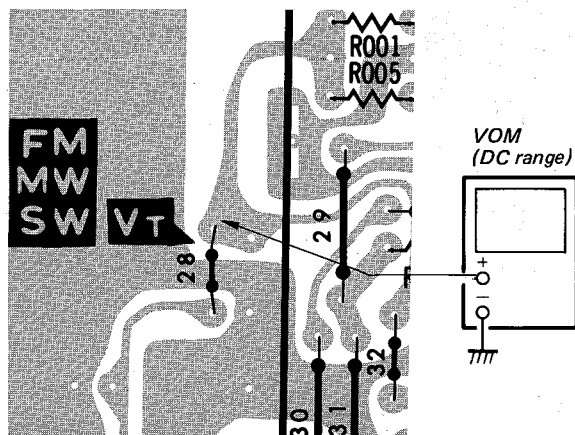
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
270 kHz	162 kHz
CT23	L22

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
1,404 kHz	603 kHz
CT21	L22

MW/LW OSC Voltage Adjustment

Procedure:

1. Set BAND selector switch to MW.
2. Push TUNING (+, -) button for 531 kHz. Adjust L23 for 1 – 1.1 V reading on the VOM.
3. Push the button for 1,611 kHz. Adjust CT22 for 8.0 – 8.5 V reading on the VOM.
4. Set BAND selector switch to LW.
5. Push TUNING (+, -) button for 144 kHz. Adjust L25 for 1 – 1.1 V reading on the VOM.
6. Push the button for 288 kHz. Adjust CT24 for 8.0 – 8.5 V reading on the VOM.



AM Tuned Indication Lighting Level Adjustment

BAND select switch: AM

1. Output 0.7 mV (57 dB), 999 kHz from AM rf signal generator.
2. Adjust RT102 so that the LED lights up.

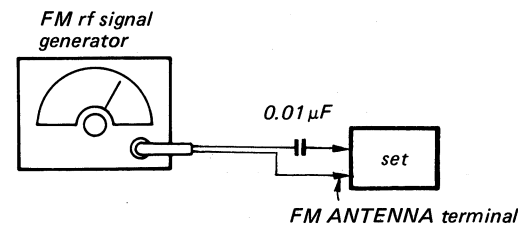
FM SECTION

Setting:

BAND selector switch FM

FM OSC Voltage Adjustment

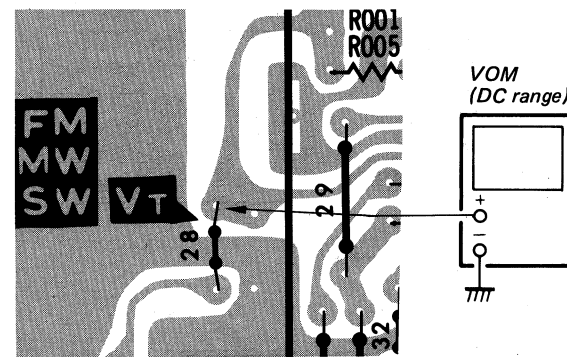
Setting:



Carrier frequency: 108 MHz
Modulation: 1 kHz, 75 kHz deviation
Output level: as low as possible

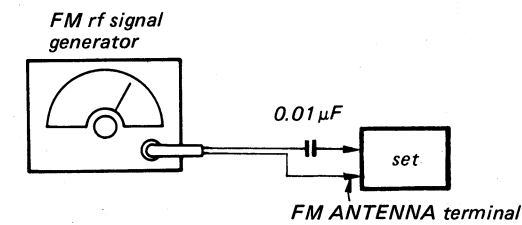
Procedure:

1. Push the TUNING (+, -) button for 108 MHz.
2. Adjust L5 for 8.0 – 8.5 V reading on the VOM.



FM Tracking Adjustment

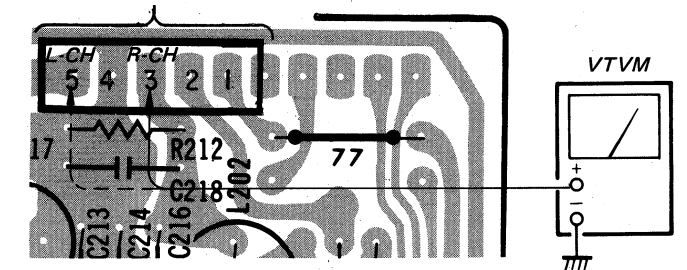
Setting:



Carrier frequency: 98 MHz
Modulation: 1 kHz, 75 kHz deviation
Output level: 3.16 μV (10 dB)

Procedure:

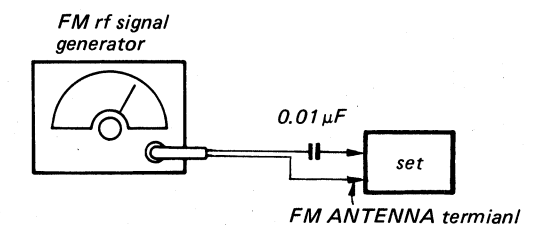
1. Push TUNING (+, -) button for 98 MHz.
2. Approach L2 and L3 not to contact each other.
3. Adjust L1 and L3, and repeat the adjustment 2 – 3 times for maximum VTVM reading.



Note: FM discriminator alignment should be mode after FM tracking adjustment.

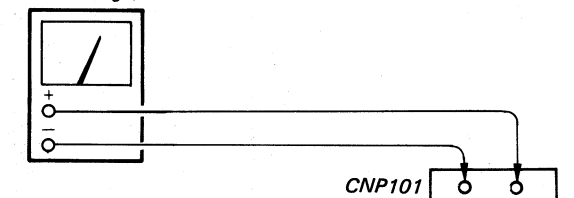
FM Discriminator Alignment (NULL Check)

Setting:



Carrier frequency: 98 MHz
Modulation: 1 kHz, 75 kHz deviation
Output level: 1 mV (60 dB)

VOM (DC range)



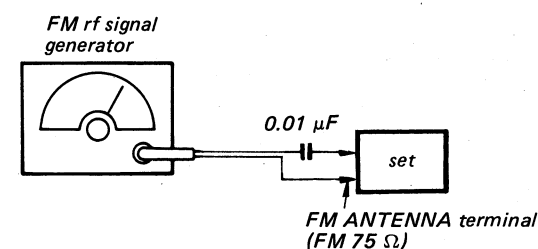
Procedure:

1. Push the TUNING (+, -) button for 98 MHz.
2. Adjust IFT101 for 0 V reading on the VOM.

FM Muting Level Adjustment

Setting:

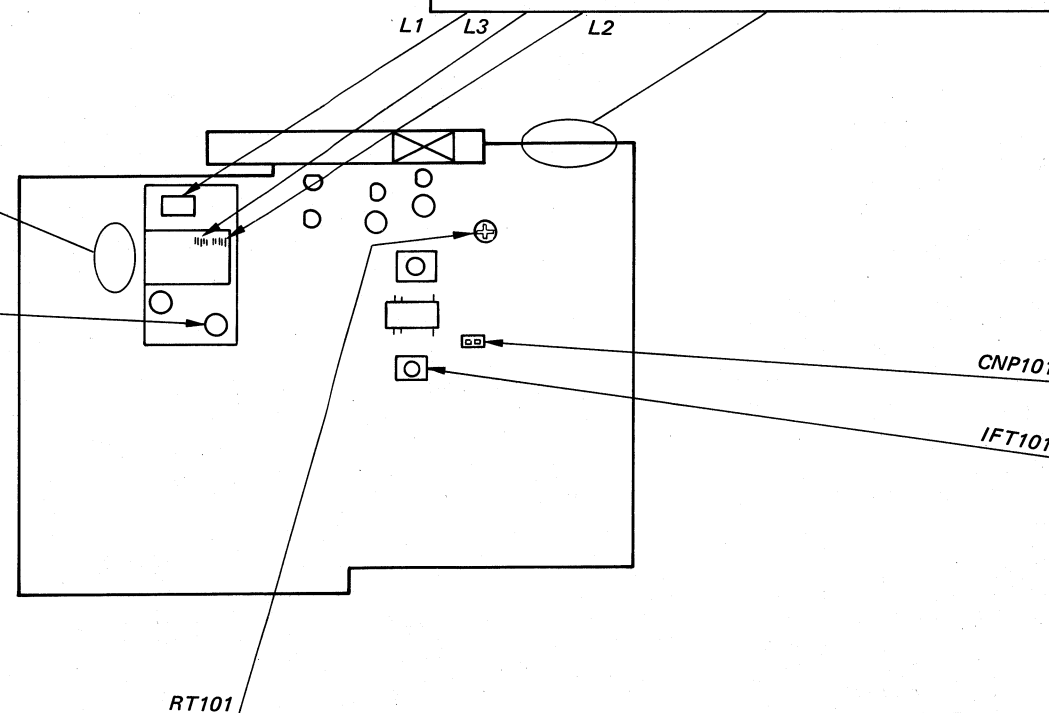
STEREO MUTING switch ON



Carrier frequency: 98 MHz
Modulation: 1 kHz, 75 kHz deviation
Output level: 22.4 μV (27 dB)

Procedure:

1. Check that "MUTING" is flashed on the indicator.
2. Push the TUNING (+, -) button for 98 MHz.
3. Adjust RT101, then check that "TUNED" is flashed on the indicator.



SECTION 2
DIAGRAMS

2-1. MOUNTING DIAGRAM

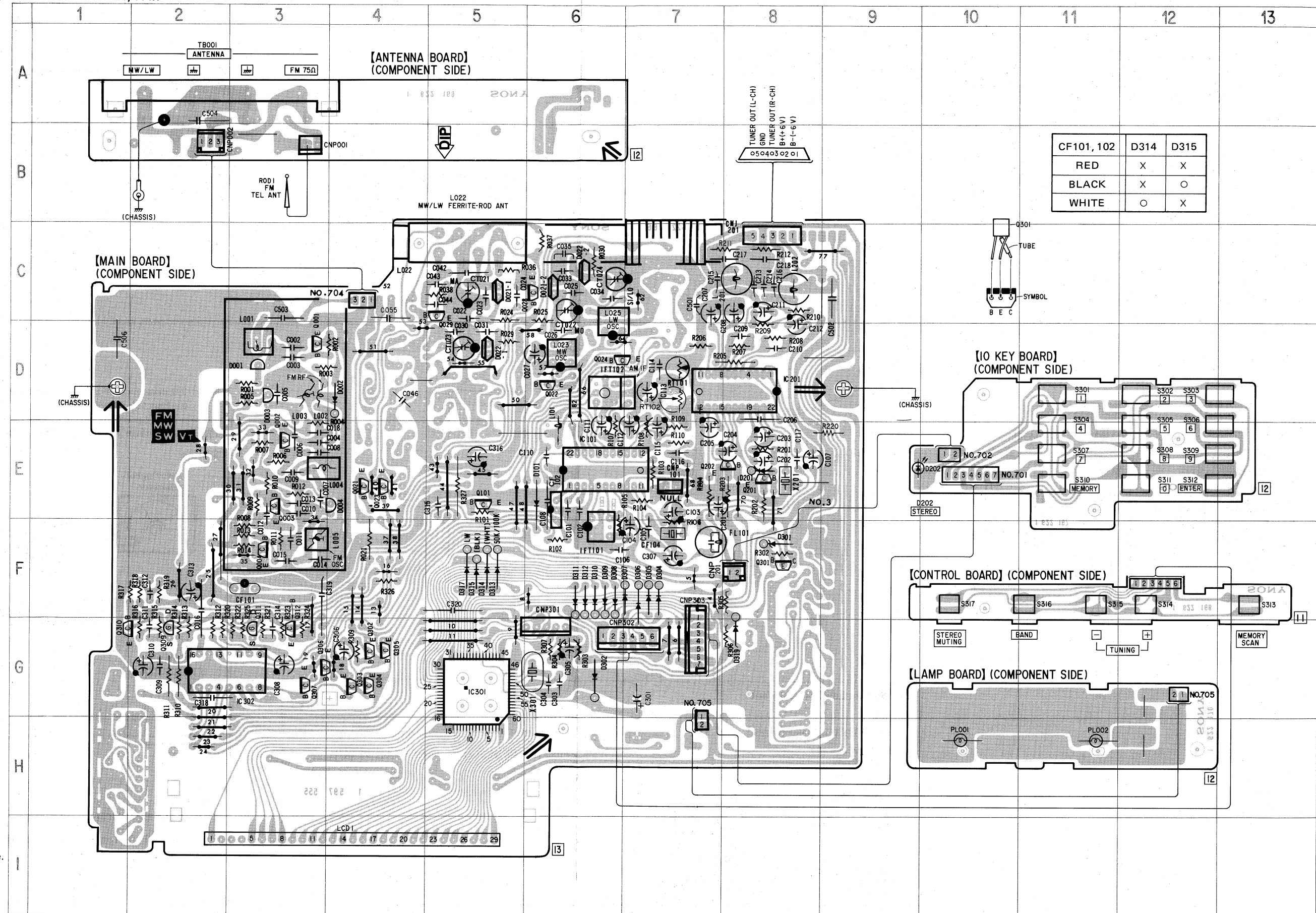
- See page ST-9 for Semiconductor Lead Layouts.

**• SEMICONDUCTOR
LOCATION**

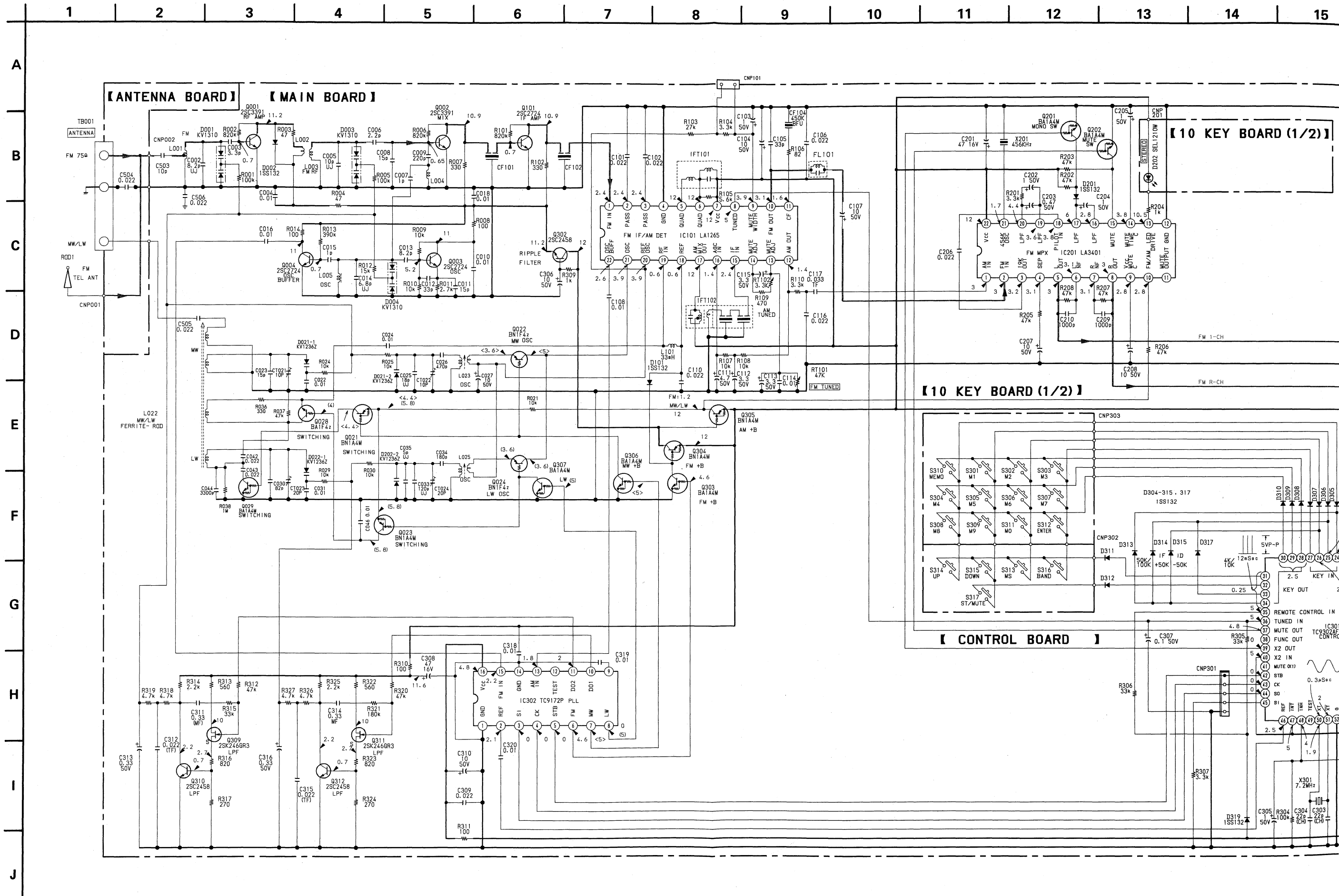
Ref. No.	Location
D001	D-3
D002	D-4
D003	D-3
D004	E-4
D021-1	C-5
D021-2	C-6
D022-1	D-5
D022-2	C-6
D101	E-6
D201	E-8
D301	F-8
D302	G-6
D304	F-7
D305	F-7
D306	F-7
D307	F-7
D308	F-6
D309	F-6
D310	F-6
D311	F-6
D312	F-6
D313	F-5
D314	F-5
D315	F-5
D317	F-5
D319	G-8
IC101	E-6
IC201	D-8
IC301	G-5
IC302	G-2
Q001	D-3
Q002	E-3
Q003	E-3
Q004	F-3
Q021	E-4
Q022	D-6
Q023	E-4
Q024	D-6
Q028	C-6
Q029	D-5
Q101	E-4
Q201	E-8
Q202	E-8
Q301	F-8
Q302	G-4
Q303	G-4
Q304	G-4
Q305	G-4
Q306	G-3
Q307	G-3
Q309	G-2
Q310	G-1
Q311	G-3
Q312	G-3

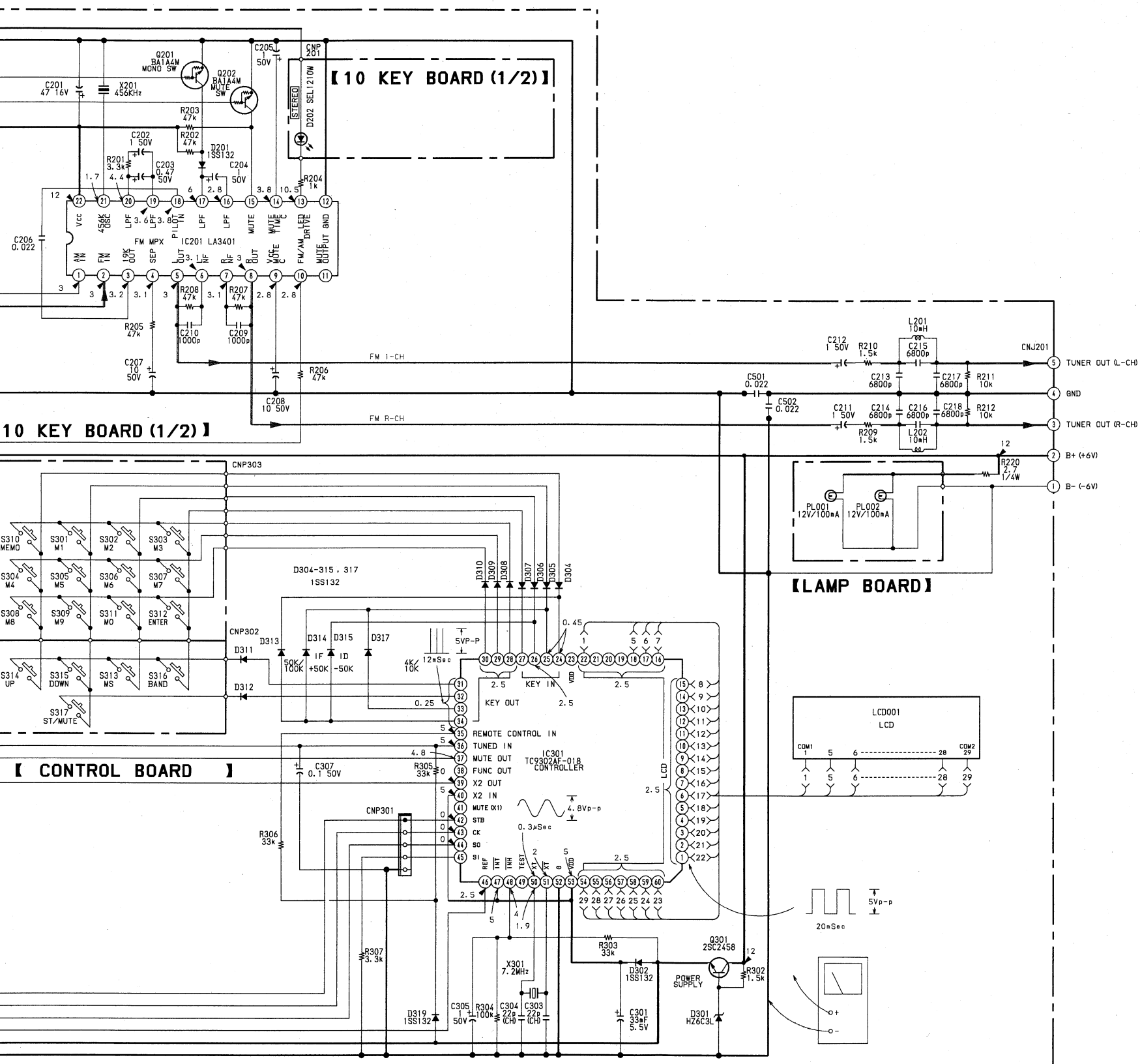
Note:

- : part mounted on the conductor side.



2-2. SCHEMATIC DIAGRAM





SECTION 3

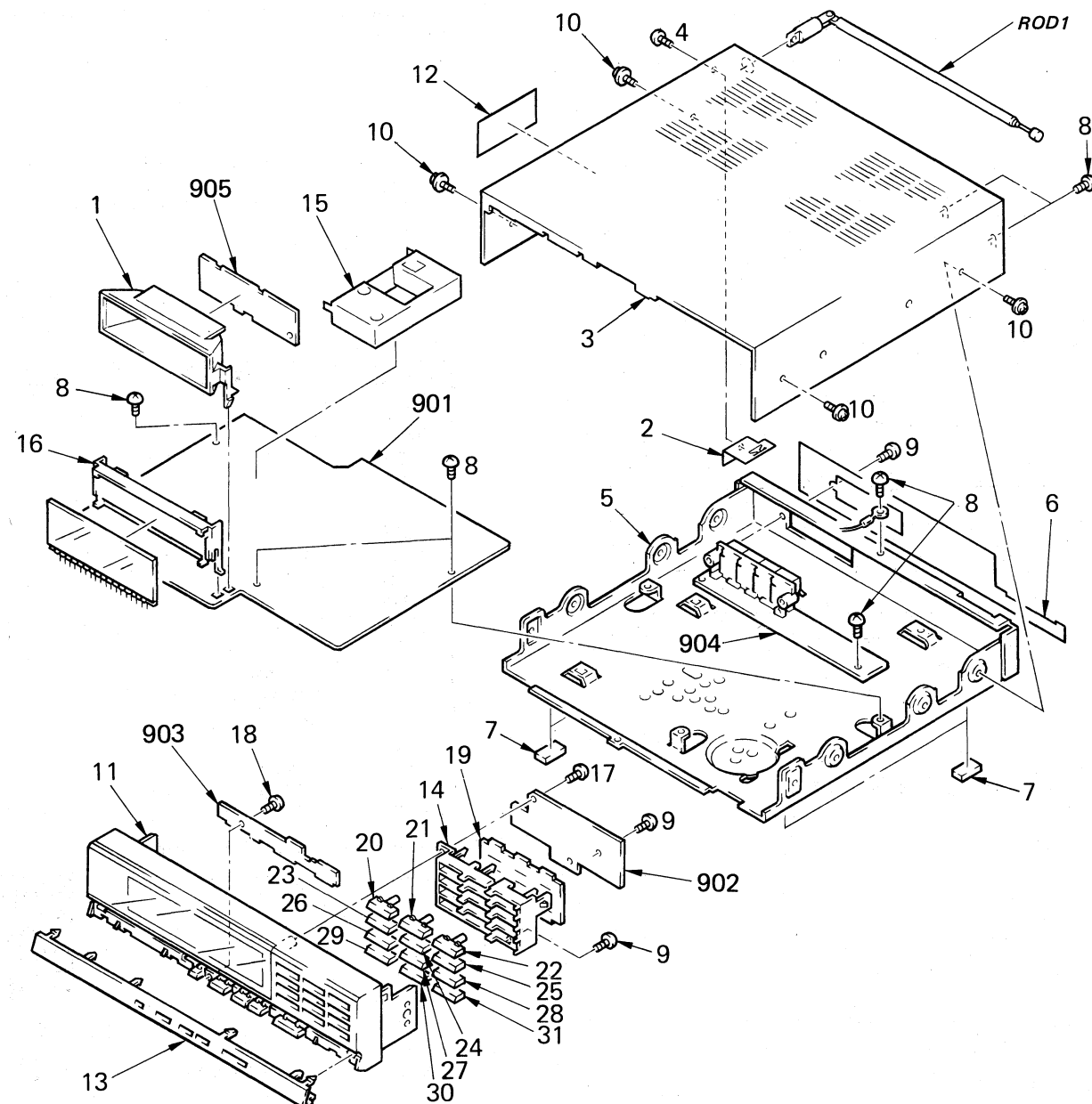
EXPLODED VIEW AND PARTS LIST

NOTE:

The mechanical parts with no reference number in the exploded views are not supplied.

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The construction parts of an assembled part are indicated with a collation number in the remark column.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	*4-917-275-01	HOUSE, LAMP		19	*4-919-607-01	SPACER	
2	*4-919-611-01	BRACKET, ANT		20	4-920-176-01	BUTTON (1)	
3	4-920-137-01	CASE		21	4-920-176-11	BUTTON (2)	
4	7-682-147-09	SCREW +B 3X6		22	4-920-176-21	BUTTON (3)	
5	*4-919-617-01	CHASSIS		23	4-920-176-31	BUTTON (4)	
6	*4-919-613-11	COVER, REAR		24	4-920-176-41	BUTTON (5)	
7	4-919-608-01	FOOT		25	4-920-176-51	BUTTON (6)	
8	7-682-147-01	SCREW +BVT 3X6 (S)		26	4-920-176-61	BUTTON (7)	
9	7-685-646-79	SCREW +BVT 3X8 TYPE2 N-S		27	4-920-176-71	BUTTON (8)	
10	7-682-148-09	SCREW, M3 CASE STOPPER		28	4-920-176-81	BUTTON (9)	
11	X-4919-627-1	PANEL ASSY		29	4-920-175-01	BUTTON (MEMORY)	
12	*4-919-668-01	LABEL, MODEL NUMBER (AE)		30	4-920-176-91	BUTTON (0)	
13	4-919-616-02	PANEL, CONTROL		31	4-920-175-11	BUTTON (ENTER)	
14	*4-919-614-01	RETAINER, BUTTON		901	*A-4351-585-A	MOUNTED PCB, TUNER	
15	*4-874-704-01	CASE, SHIELD		902	*1-622-167-12	PC BOARD, 10 KEY	
16	*4-909-633-01	ILLUMINATOR		903	*1-622-168-11	PC BOARD, CONTROL	
17	7-685-647-79	SCREW +BVT 3X10 TYPE2 N-S		904	*1-622-169-12	PC BOARD, ANTENNA	
18	7-685-133-19	SCREW +P 2.6X6 TYPE2 SLIT		905	*1-622-170-12	PC BOARD, LAMP	
				ROD1	1-501-270-00	ANTENNA, TELESCOPIC	

- ST-10 -

SECTION 4

ELECTRICAL PARTS LIST

NOTE:

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

All resistors are in ohms.

F : nonflammable

COILS

MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:

UA.... : μA..., UPA.... : μPA..., UPC.... : μPC, UPD.... : μPD....

ELECTRICAL PARTS						ELECTRICAL PARTS					
Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
901	*A-4351-585-A	MOUNTED PCB, TUNER				C111	1-124-927-11	ELECT	4.7MF	20%	50V
902	*1-622-167-12	PC BOARD, 10 KEY				C112	1-123-382-00	ELECT	3.3MF	20%	50V
903	*1-622-168-11	PC BOARD, CONTROL				C113	1-123-382-00	ELECT	3.3MF	20%	50V
904	*1-622-169-12	PC BOARD, ANTENNA				C114	1-161-379-00	CERAMIC	0.01MF	20%	16V
905	*1-622-170-12	PC BOARD, LAMP				C115	1-123-382-00	ELECT	3.3MF	20%	50V
C002	1-162-198-31	CERAMIC	8.2PF	10%	50V	C116	1-101-005-00	CERAMIC	0.022MF		50V
C003	1-162-193-31	CERAMIC	3.3PF	10%	50V	C117	1-130-489-00	MYLAR	0.033MF	5%	50V
C004	1-161-379-00	CERAMIC	0.01MF	20%	16V	C201	1-124-477-11	ELECT	47MF	20%	16V
C005	1-162-199-31	CERAMIC	10PF	5%	50V	C202	1-124-791-11	ELECT	1MF	20%	50V
C006	1-162-191-31	CERAMIC	2.2PF	10%	50V	C203	1-124-902-00	ELECT	0.47MF	20%	50V
C007	1-162-187-31	CERAMIC	1PF	20%	50V	C204	1-124-791-11	ELECT	1MF	20%	50V
C008	1-162-203-31	CERAMIC	15PF	5%	50V	C205	1-124-791-11	ELECT	1MF	20%	50V
C009	1-162-286-31	CERAMIC	220PF	10%	50V	C206	1-161-494-00	CERAMIC	0.022MF	30%	25V
C010	1-161-379-00	CERAMIC	0.01MF	20%	16V	C207	1-123-875-91	ELECT	10MF	20%	50V
C011	1-162-203-31	CERAMIC	15PF	5%	50V	C208	1-123-875-91	ELECT	10MF	20%	50V
C012	1-162-211-31	CERAMIC	33PF	5%	50V	C209	1-102-074-00	CERAMIC	0.001MF	10%	50V
C013	1-162-198-31	CERAMIC	8.2PF	10%	50V	C210	1-102-074-00	CERAMIC	0.001MF	10%	50V
C014	1-162-197-31	CERAMIC	6.8PF	10%	50V	C211	1-124-611-00	ELECT	1MF	20%	50V
C015	1-162-187-31	CERAMIC	1PF	20%	50V	C212	1-124-611-00	ELECT	1MF	20%	50V
C016	1-161-379-00	CERAMIC	0.01MF	20%	16V	C213	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C018	1-161-379-00	CERAMIC	0.01MF	20%	16V	C214	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C022	1-161-379-00	CERAMIC	0.01MF	20%	16V	C215	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C023	1-102-936-00	CERAMIC	3PF	0.25PF	50V	C216	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C024	1-161-379-00	CERAMIC	0.01MF	20%	16V	C217	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C025	1-102-893-00	CERAMIC	18PF	5%	50V	C218	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C026	1-130-014-00	FILM	470PF	5%	50V	C301	1-126-211-51	ELECT	33000MF		5.5V
C027	1-123-875-91	ELECT	10MF	20%	50V	C303	1-102-959-00	CERAMIC	22PF	5%	50V
C030	1-102-971-00	CERAMIC	82PF	5%	50V	C304	1-102-959-00	CERAMIC	22PF	5%	50V
C031	1-161-379-00	CERAMIC	0.01MF	20%	16V	C305	1-124-791-11	ELECT	1MF	20%	50V
C033	1-102-816-00	CERAMIC	120PF	5%	50V	C306	1-123-875-91	ELECT	10MF	20%	50V
C034	1-130-047-00	FILM	180PF	5%	50V	C307	1-124-463-00	ELECT	0.1MF	20%	50V
C035	1-102-942-00	CERAMIC	5PF	0.5PF	50V	C308	1-124-477-11	ELECT	47MF	20%	16V
C042	1-161-494-00	CERAMIC	0.022MF	30%	25V	C309	1-101-005-00	CERAMIC	0.022MF		50V
C043	1-101-005-00	CERAMIC	0.022MF		50V	C310	1-123-875-91	ELECT	10MF	20%	50V
C044	1-161-327-00	CERAMIC	0.0033MF	20%	16V	C311	1-136-171-00	FILM	0.33MF	5%	50V
C046	1-161-379-00	CERAMIC	0.01MF	20%	16V	C312	1-130-487-00	MYLAR	0.022MF	5%	50V
C101	1-101-005-00	CERAMIC	0.022MF		50V	C313	1-124-252-00	ELECT	0.33MF	20%	50V
C102	1-101-005-00	CERAMIC	0.022MF		50V	C314	1-136-171-00	FILM	0.33MF	5%	50V
C103	1-124-791-11	ELECT	1MF	20%	50V	C315	1-130-487-00	MYLAR	0.022MF	5%	50V
C104	1-123-875-91	ELECT	10MF	20%	50V	C316	1-124-252-00	ELECT	0.33MF	20%	50V
C105	1-162-211-31	CERAMIC	33PF	5%	50V	C318	1-161-379-00	CERAMIC	0.01MF	20%	16V
C106	1-101-005-00	CERAMIC	0.022MF		50V	C319	1-161-379-00	CERAMIC	0.01MF	20%	16V
C107	1-123-875-91	ELECT	10MF	20%	50V	C320	1-161-379-00	CERAMIC	0.01MF	20%	16V
C108	1-161-379-00	CERAMIC	0.01MF	20%	16V	C501	1-161-494-00	CERAMIC	0.022MF	30%	25V
C110	1-101-005-00	CERAMIC	0.022MF		50V	C502	1-161-494-00	CERAMIC	0.022MF	30%	25V

- ST-11 -

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C503	1-162-199-31	CERAMIC	10PF	5%	50V
C504	1-161-494-00	CERAMIC	0.022MF	30%	25V
C505	1-161-494-00	CERAMIC	0.022MF	30%	25V
C506	1-161-494-00	CERAMIC	0.022MF	30%	25V
CF101	1-527-968-00	FILTER, CERAMIC			
CF102	1-527-968-00	FILTER, CERAMIC			
CF104	1-527-981-00	FILTER, CERAMIC			
CNJ201	*1-559-205-11	CORD (WITH CONNECTOR) 5P			
CNP001	*1-560-060-00	PIN, CONNECTOR 2P			
CNP002	*1-564-337-00	PIN, CONNECTOR 3P			
CNP101	*1-560-060-00	PIN, CONNECTOR 2P			
CNP201	*1-564-336-00	PIN, CONNECTOR 2P			
CNP301	*1-560-063-00	PIN, CONNECTOR 5P			
CNP302	*1-560-064-00	PIN, CONNECTOR 6P			
CNP303	*1-564-341-11	PIN, CONNECTOR 7P			
CT021	1-141-227-00	CAP, CERAMIC TRIMMER			
CT022	1-141-304-21	TRIMMER, CERAMIC			
CT023	1-141-227-00	CAP, CERAMIC TRIMMER			
CT024	1-141-227-00	CAP, CERAMIC TRIMMER			
D001	8-719-918-45	DIODE KV1310			
D002	8-719-940-76	DIODE 1SS132			
D003	8-719-918-45	DIODE KV1310			
D004	8-719-918-45	DIODE KV1310			
D021	8-719-902-79	DIODE KV1236Z			
D022	8-719-902-79	DIODE KV1236Z			
D101	8-719-940-76	DIODE 1SS132			
D201	8-719-940-76	DIODE 1SS132			
D202	8-719-303-18	DIODE SEL1210W			
D301	8-719-910-63	DIODE HZ6C2L			
D302	8-719-940-76	DIODE 1SS132			
D304	8-719-940-76	DIODE 1SS132			
D305	8-719-940-76	DIODE 1SS132			
D306	8-719-940-76	DIODE 1SS132			
D307	8-719-940-76	DIODE 1SS132			
D308	8-719-940-76	DIODE 1SS132			
D309	8-719-940-76	DIODE 1SS132			
D310	8-719-940-76	DIODE 1SS132			
D311	8-719-940-76	DIODE 1SS132			
D312	8-719-940-76	DIODE 1SS132			
D313	8-719-940-76	DIODE 1SS132			
D314	8-719-940-76	DIODE 1SS132			
D315	8-719-940-76	DIODE 1SS132			
D317	8-719-940-76	DIODE 1SS132			
D319	8-719-940-76	DIODE 1SS132			
FL101	1-235-126-00	ENCAPSULATED COMPONENT			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC101	8-759-801-81	IC LA1265
IC201	8-759-801-80	IC LA3401
IC301	8-759-207-45	IC TC9302AF-018
IC302	8-759-202-63	IC TC9172P
IFT101	1-404-659-11	COIL, DISCRIMINATOR
IFT102	1-404-713-11	TRANSFORMER, IF
L001	*1-422-336-11	COIL, AIR-CORE
L002	*1-422-040-00	COIL, AIR-CORE
L003	*1-422-081-00	COIL (WITH CORE)
L004	*1-422-039-00	COIL, AIR-CORE
L005	*1-459-396-00	COIL (WITH CORE)
L022	1-402-151-11	ANTENNA, FERRITE-ROD (LW/MW)
L023	1-406-089-11	COIL (OSC)
L025	1-406-207-11	COIL, LW (OSC)
L101	1-408-930-00	MICRO INDUCTOR 33MMH
L201	1-408-924-00	MICRO INDUCTOR 10MMH
L202	1-408-924-00	MICRO INDUCTOR 10MMH
LCD1	1-807-453-41	DISPLAY PANEL, LIQUID CRYSTAL
PL001	1-518-527-51	LAMP, PILOT
PL002	1-518-527-51	LAMP, PILOT
Q001	8-729-304-38	TRANSISTOR 2SC3391
Q002	8-729-304-38	TRANSISTOR 2SC3391
Q003	8-729-672-42	TRANSISTOR 2SC2724
Q004	8-729-672-42	TRANSISTOR 2SC2724
Q021	8-729-159-01	TRANSISTOR 2SA1348
Q022	8-729-115-33	TRANSISTOR BN1F4Z
Q023	8-729-159-01	TRANSISTOR 2SA1348
Q024	8-729-115-33	TRANSISTOR BN1F4Z
Q028	8-729-115-93	TRANSISTOR BA1F4Z
Q029	8-729-115-79	TRANSISTOR BA1A4M
Q101	8-729-672-42	TRANSISTOR 2SC2724
Q201	8-729-115-79	TRANSISTOR BA1A4M
Q202	8-729-115-79	TRANSISTOR BA1A4M
Q301	8-729-600-27	TRANSISTOR 2SC634SP
Q302	8-729-600-27	TRANSISTOR 2SC634SP
Q303	8-729-115-79	TRANSISTOR BA1A4M
Q304	8-729-159-01	TRANSISTOR 2SA1348
Q305	8-729-159-01	TRANSISTOR 2SA1348
Q306	8-729-115-79	TRANSISTOR BA1A4M
Q307	8-729-115-79	TRANSISTOR BA1A4M
Q309	8-729-201-56	TRANSISTOR 2SK246GR2
Q310	8-729-600-27	TRANSISTOR 2SC634SP
Q311	8-729-201-56	TRANSISTOR 2SK246GR2
Q312	8-729-600-27	TRANSISTOR 2SC634SP

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R001	1-249-441-11	CARBON	100K	5%	1/6W
R002	1-215-491-00	CARBON	820K	5%	1/6W
R003	1-249-401-11	CARBON	47	5%	1/6W
R004	1-249-401-11	CARBON	47	5%	1/6W
R005	1-249-441-11	CARBON	100K	5%	1/6W
R006	1-215-491-00	CARBON	820K	5%	1/6W
R007	1-249-411-11	CARBON	330	5%	1/6W
R008	1-249-405-11	CARBON	100	5%	1/6W
R009	1-249-429-11	CARBON	10K	5%	1/6W
R010	1-249-429-11	CARBON	10K	5%	1/6W
R011	1-249-422-11	CARBON	2.7K	5%	1/6W
R012	1-249-431-11	CARBON	15K	5%	1/6W
R013	1-215-483-00	CARBON	390K	5%	1/6W
R014	1-249-405-11	CARBON	100	5%	1/6W
R021	1-249-429-11	CARBON	10K	5%	1/6W
R024	1-249-429-11	CARBON	10K	5%	1/6W
R025	1-249-429-11	CARBON	10K	5%	1/6W
R029	1-249-429-11	CARBON	10K	5%	1/6W
R030	1-249-429-11	CARBON	10K	5%	1/6W
R036	1-249-411-11	CARBON	330	5%	1/6W
R037	1-249-437-11	CARBON	47K	5%	1/6W
R038	1-215-493-00	CARBON	1M	5%	1/6W
R101	1-215-491-00	CARBON	820K	5%	1/6W
R102	1-249-411-11	CARBON	330	5%	1/6W
R103	1-249-434-11	CARBON	27K	5%	1/6W
R104	1-249-423-11	CARBON	3.3K	5%	1/6W
R105	1-247-849-00	CARBON	5.6K	5%	1/6W
R106	1-249-404-00	CARBON	82	5%	1/6W
R107	1-249-429-11	CARBON	10K	5%	1/6W
R108	1-249-429-11	CARBON	10K	5%	1/6W
R109	1-249-413-11	CARBON	470	5%	1/6W
R110	1-249-423-11	CARBON	3.3K	5%	1/6W
R201	1-249-423-11	CARBON	3.3K	5%	1/6W
R202	1-249-437-11	CARBON	47K	5%	1/6W
R203	1-249-437-11	CARBON	47K	5%	1/6W
R204	1-249-417-11	CARBON	1K	5%	1/6W
R205	1-249-437-11	CARBON	47K	5%	1/6W
R206	1-249-437-11	CARBON	47K	5%	1/6W
R207	1-249-437-11	CARBON	47K	5%	1/6W
R208	1-249-437-11	CARBON	47K	5%	1/6W
R209	1-249-419-11	CARBON	1.5K	5%	1/6W
R210	1-249-419-11	CARBON	1.5K	5%	1/6W
R211	1-249-429-11	CARBON	10K	5%	1/6W
R212	1-249-429-11	CARBON	10K	5%	1/6W
R220	1-249-452-11	CARBON	2.7	5%	1/4W
R302	1-249-419-11	CARBON	1.5K	5%	1/6W
R303	1-249-435-11	CARBON	33K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R304	1-249-441-11	CARBON	100K	5%	1/6W
R305	1-249-435-11	CARBON	33K	5%	1/6W
R306	1-249-435-11	CARBON	33K	5%	1/6W
R307	1-249-423-11	CARBON	3.3K	5%	1/6W
R309	1-249-417-11	CARBON	1K	5%	1/6W
R310	1-249-405-11	CARBON	100	5%	1/6W
R311	1-249-405-11	CARBON	100	5%	1/6W
R312	1-249-437-11	CARBON	47K	5%	1/6W
R313	1-249-414-11	CARBON	560	5%	1/6W
R314	1-249-421-11	CARBON	2.2K	5%	1/6W
R315	1-249-435-11	CARBON	33K	5%	1/6W
R316	1-249-416-11	CARBON	820	5%	1/6W
R317	1-249-410-11	CARBON	270	5%	1/6W
R318	1-249-425-11	CARBON	4.7K	5%	1/6W
R319	1-249-425-11	CARBON	4.7K	5%	1/6W
R320	1-249-437-11	CARBON	47K	5%	1/6W
R321	1-247-885-00	CARBON	180K	5%	1/6W
R322	1-249-414-11	CARBON	560	5%	1/6W
R323	1-249-416-11	CARBON	820	5%	1/6W
R324	1-249-410-11	CARBON	270	5%	1/6W
R325	1-249-421-11	CARBON	2.2K	5%	1/6W
R326	1-249-425-11	CARBON	4.7K	5%	1/6W
R327	1-249-425-11	CARBON	4.7K	5%	1/6W
ROD1	1-501-270-00	ANTENNA, TELESCOPIC			
RT101	1-228-996-00	RES, ADJ, CARBON	47K		
RT102	1-230-629-11	RES, ADJ, CARBON	3.3K		
S301	1-554-303-21	SWITCH, KEY BOARD	(1)		
S302	1-554-303-21	SWITCH, KEY BOARD	(2)		
S303	1-554-303-21	SWITCH, KEY BOARD	(3)		
S304	1-554-303-21	SWITCH, KEY BOARD	(4)		
S305	1-554-303-21	SWITCH, KEY BOARD	(5)		
S306	1-554-303-21	SWITCH, KEY BOARD	(6)		
S307	1-554-303-21	SWITCH, KEY BOARD	(7)		
S308	1-554-303-21	SWITCH, KEY BOARD	(8)		
S309	1-554-303-21	SWITCH, KEY BOARD	(9)		
S310	1-554-303-21	SWITCH, KEY BOARD	(MEMORY)		
S311	1-554-303-21	SWITCH, KEY BOARD	(0)		
S312	1-554-303-21	SWITCH, KEY BOARD	(ENTER)		
S313	1-570-876-11	SWITCH, KEY BOARD	(MEMORY SCAN)		
S314	1-570-876-11	SWITCH, KEY BOARD	(+)		
S315	1-570-876-11	SWITCH, KEY BOARD	(-)		
S316	1-570-876-11	SWITCH, KEY BOARD	(BAND)		
S317	1-570-876-11	SWITCH, KEY BOARD	(STEREO MUTING)		
TB001	1-536-708-00	TERMINAL BOARD, PUSH 4P			
X201	1-567-250-11	OSCILLATOR, CERAMIC	(456kHz)		
X301	1-567-736-11	VIBRATOR, CRYSTAL	(7.2MHz)		

FH-204

STEREO CASSETTE DECK AMPLIFIER (DXA-204)

AEP Model

SECTION 1 ADJUSTMENTS

1-1. MECHANICAL ADJUSTMENTS

- Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

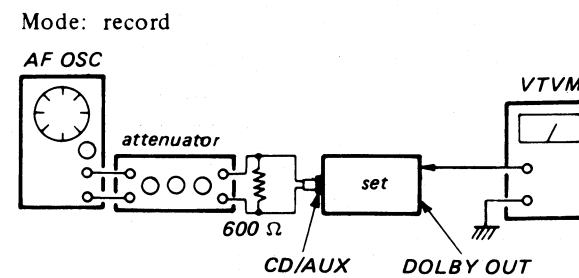
Torque	Torquement	Meter reading
FWD	CQ-102C	30 - 70 g·cm (0.42 - 0.97 oz·inch)
FWD/REV Back tension	CQ-102C	2 - 8 g·cm (0.07 - 0.111 oz. inch)
FF. REW	CQ-201B	70 - 160 g·cm (0.972 - 2.221 oz. inch)

1-2. ELECTRICAL ADJUSTMENTS

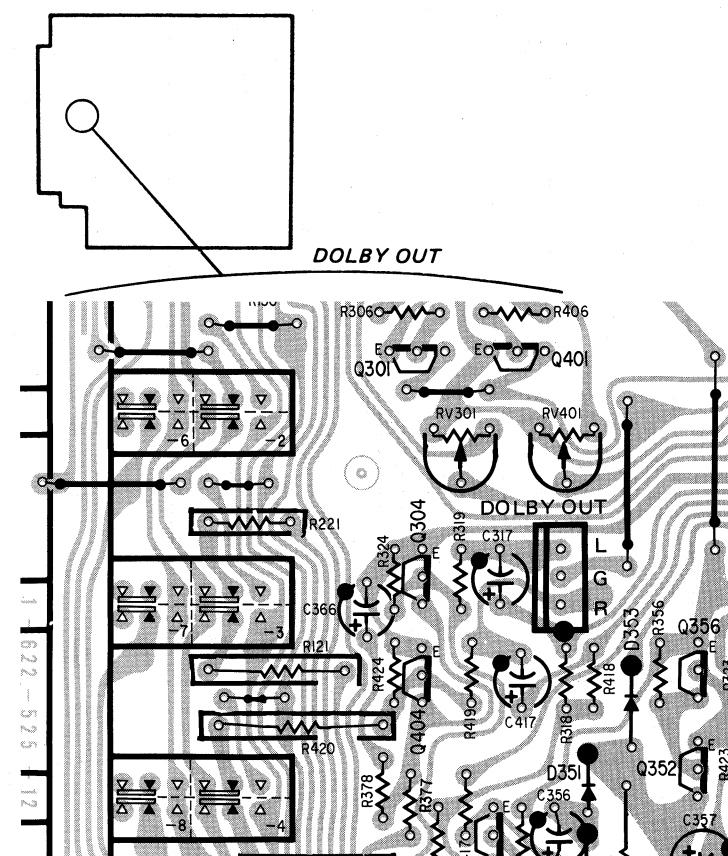
- The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
- The adjustments should be performed for both L-CH and R-CH.
- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF

- Standard Record:
Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.



main board



Standard Input Level

	CD/AUX
source impedance	600 Ω
input level	0.35 V (-7 dB)

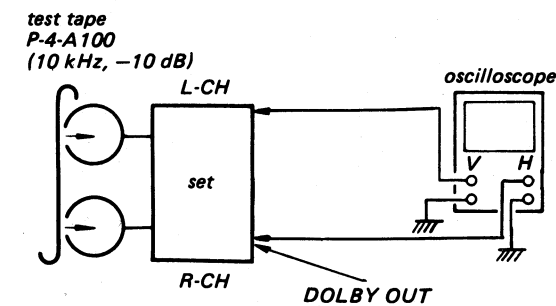
Standard Output Level

	DOLBY OUT
load impedance	—
output level	0.4 V (-5.7 dB)

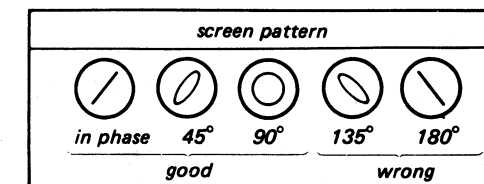
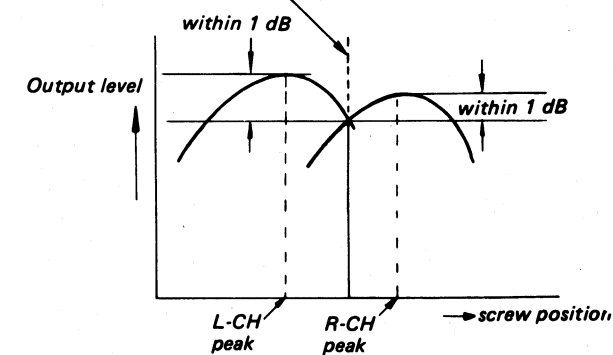
Record/Playback Head Azimuth Adjustment

Procedure:

- Mode: FWD playback

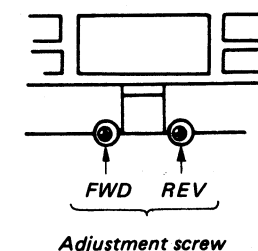


- Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



- Mode: REV
Repeat step 1 and 2.
- After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location:

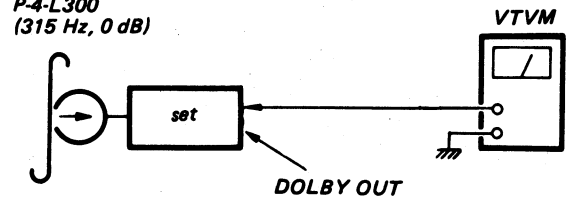


Playback Level Adjustment

Procedure:

- Mode: FWD playback

test tape
P-4-L300
(315 Hz, 0 dB)



Adjust,
RV301 (L-CH), RV401 (R-CH)

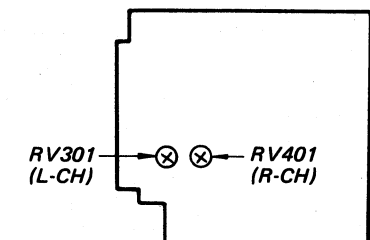
so that the specifications are satisfied.

Specification:

DOLBY OUT level: 0.35 ~ 0.31 V
(-7 ~ -8 dB)

level difference between the channels:
within 0.5 dB

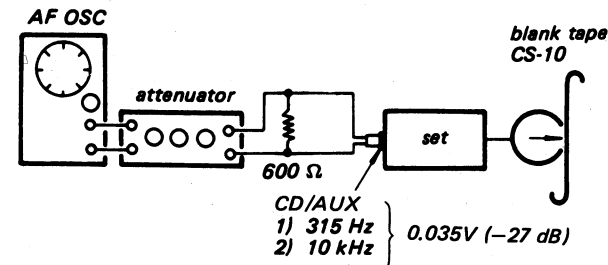
Adjustment Location: main board



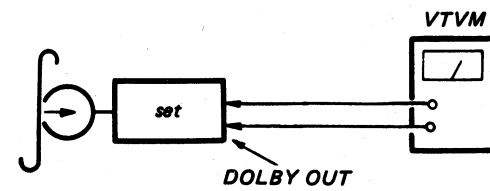
Record BIAS Current Adjustment

Procedure:

1. Mode: record



2. Mode: playback

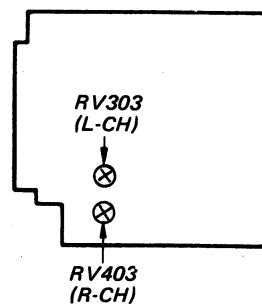


Play back the tape recorded in step 1. If the specification is not satisfied, adjust RV303, (L-CH), RV403, (R-CH) and repeat steps 1 and 2.

Specification:

The DOLBY OUT level of 10 kHz signal relative to that of 315 Hz: $-1 \text{ dB} \sim 1 \text{ dB}$.

Adjustment Location: main board



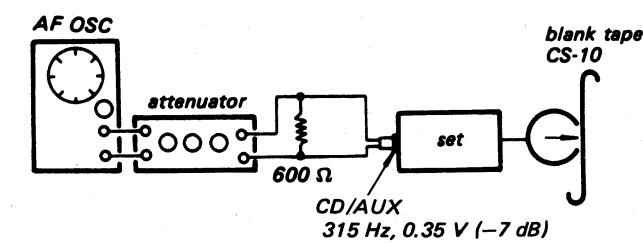
Record Level Adjustment

Setting:

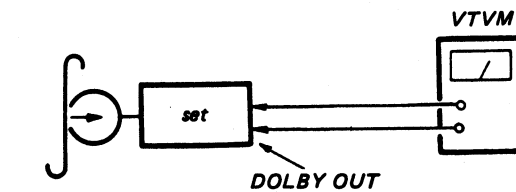
TAPE SELECT: TYPE I

Procedure:

1. Mode: record



2. Mode: playback

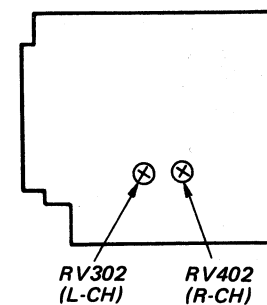


Play back the tape recorded in step 1. If the specification is not satisfied, adjust RV302 (L-CH), RV402 (R-CH) and repeat steps 1 and 2.

Specification:

DOLBY OUT level: $0.45 \text{ V} \sim 0.36 \text{ V}$
($-4.7 \sim -6.7 \text{ dB}$)

Adjustment Location: main board



SEMICONDUCTOR LEAD LAYOUTS

CXA1101P 	2SC6345P 2SC340D 	SEL2210S-C SEL2410E-C SEL2810A-C SEL2910A-C
IR2E31 μPC4570HA 	2SD1585-L 	RBV-402-01 RBV-602-01
M5F7806 M5F7906 	10E2N 10YD4.5B ISS132 NZ9C3L HZ11B2L 	
M5218L 		
STK4142MK2 STK4122MK2 	11ES2 US1060M 	
2SA1175 2SC3901 2SD1020 	SEL2T10W-C 	

SECTION 2 DIAGRAMS

DXA-204 DXA-204

• See page DXA-4 for Semiconductor Lead Layouts.

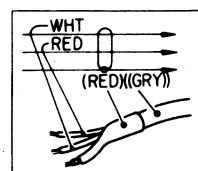
2-1. MOUNTING DIAGRAM

• SEMICONDUCTOR LOCATION

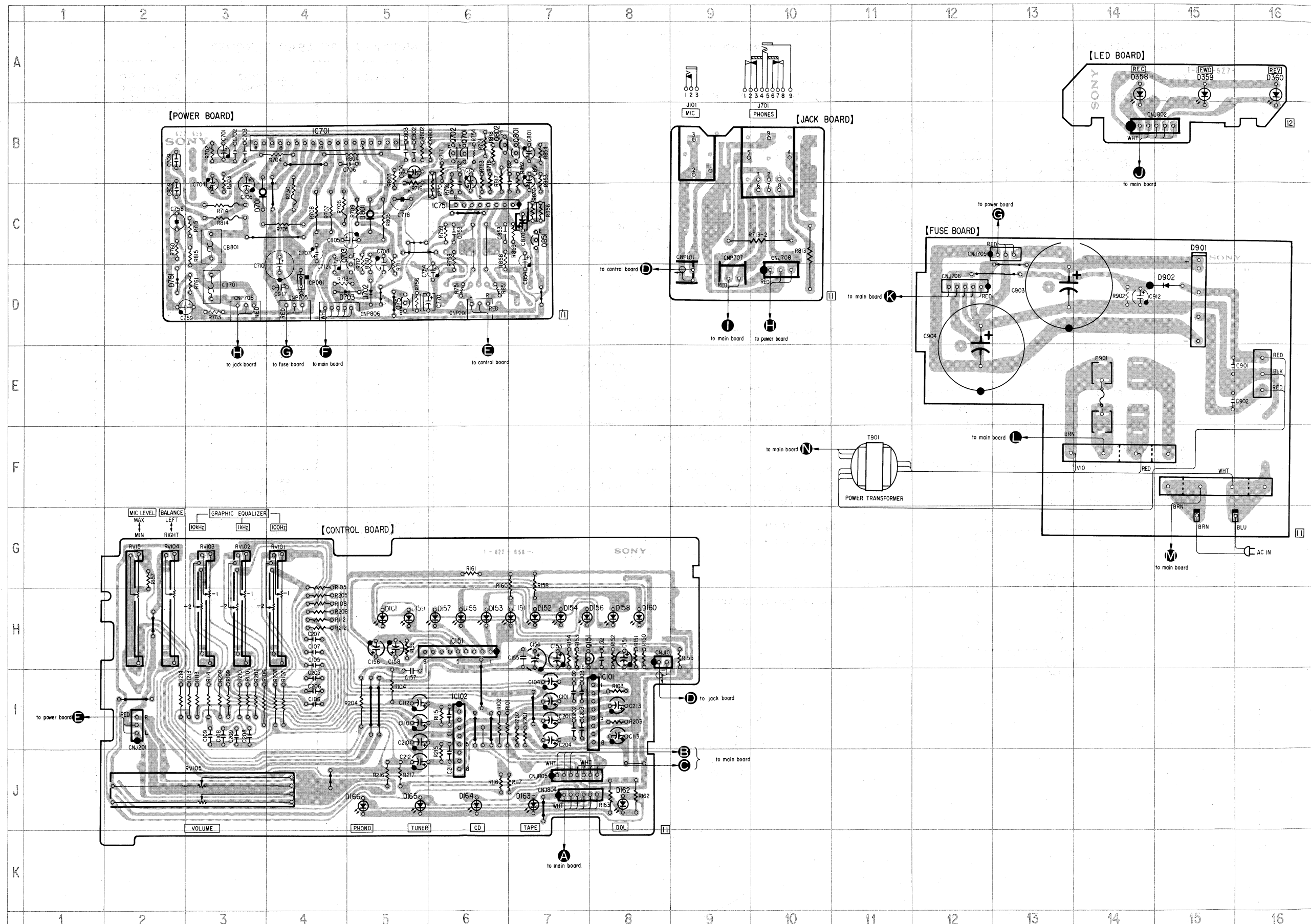
Ref. No.	Location	Ref. No.	Location
IC101	I-8	D151	H-7
IC102	I-6	D152	H-7
IC103	G-27	D153	H-6
IC151	H-6	D154	H-7
IC301	C-20	D155	H-6
IC302	F-24	D156	H-7
IC303	D-24	D157	H-6
IC701	B-4	D158	H-8
IC751	C-6	D159	H-5
IC901	J-30	D160	H-8
IC902	J-31		
		D161	H-5
		D162	J-8
Q151	H-7	D163	J-7
Q301	E-20	D164	J-6
Q302	D-23	D165	J-5
Q303	B-23		
Q304	F-21	D166	J-5
		D351	G-21
Q305	G-22	D352	H-21
Q351	G-21	D353	G-22
Q352	G-22	D354	A-22
Q353	F-25		
Q354	B-21	D355	A-20
		D356	H-22
Q355	K-26	D357	G-25
Q356	G-22	D358	A-14
Q401	E-21	D359	A-15
Q402	D-24		
Q403	B-24	D360	A-10
		D701	C-3
Q404	G-21	D702	D-5
Q405	G-22	D703	D-4
Q701	B-6	D751	D-2
Q702	B-6		
Q703	C-4	D801	C-5
		D901	C-15
Q751	D-5	D902	D-15
Q801	B-7	D904	I-23
Q802	B-6	D905	I-23
Q851	C-7		
		D906	I-23
		D907	I-23
		D908	J-26
		D909	J-27
		D910	J-27
		D911	J-28
		D912	J-20
		D913	I-26
		D914	J-24
		D951	H-19
		D952	I-28
		D953	I-27
		D954	I-28
		D955	I-19

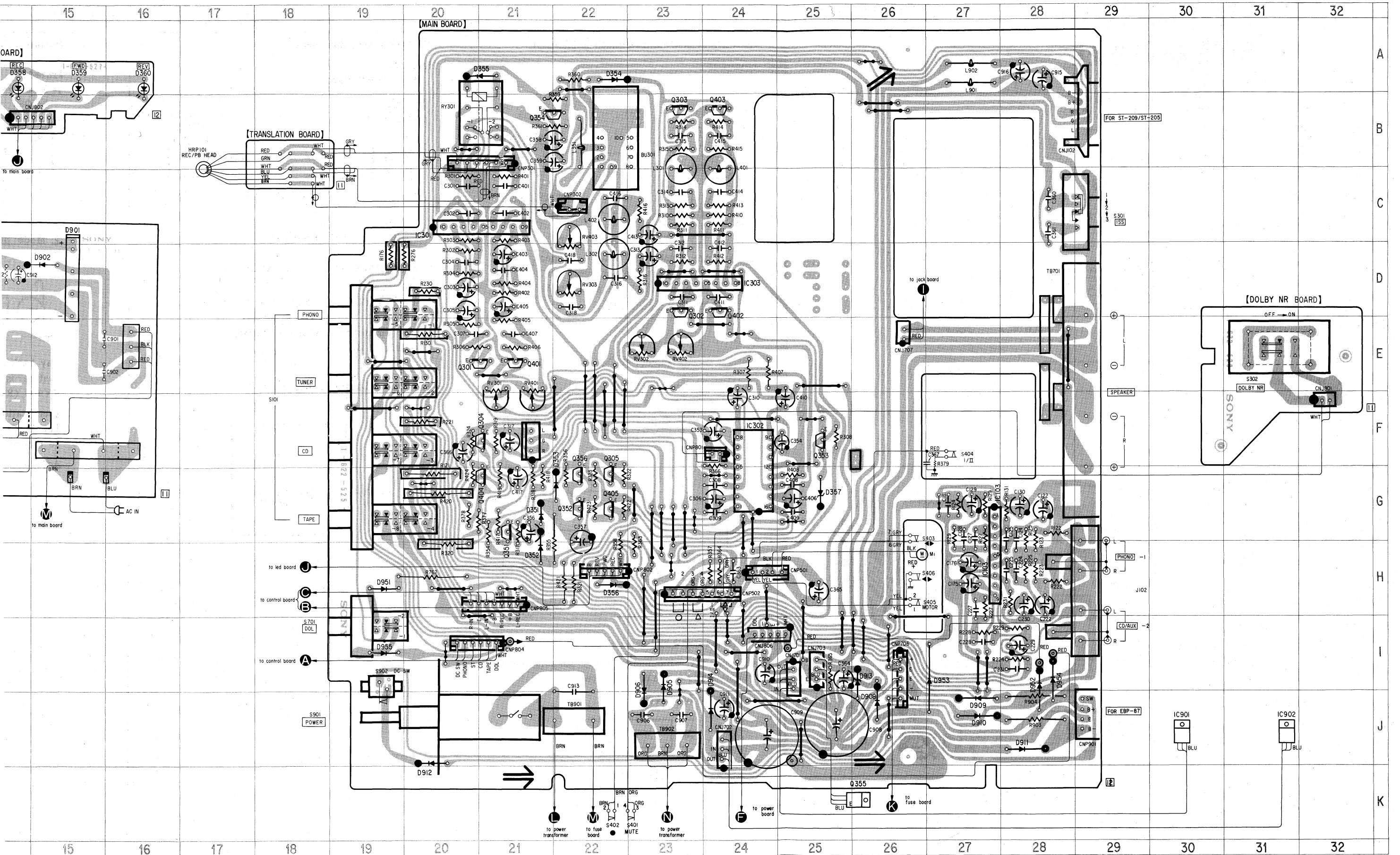
Note:

- Color code of sleeving over the end of the jacket.



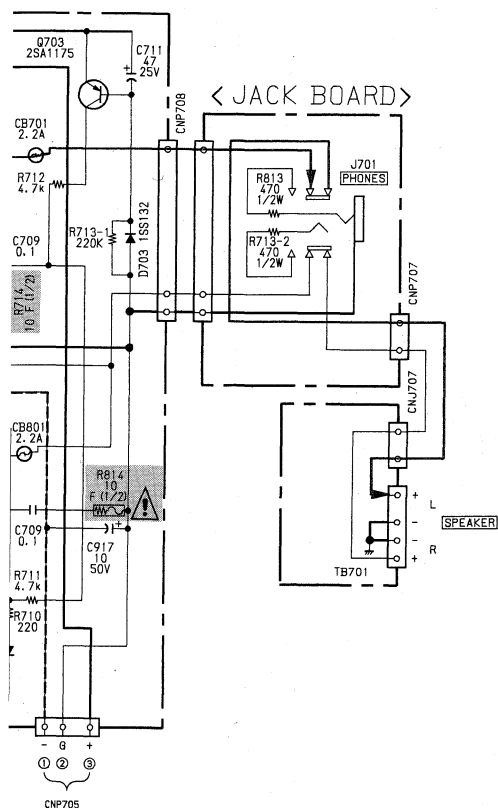
- ○ : parts extracted from the component side.
- ● : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.





DXA-204 DXA-204





Note:

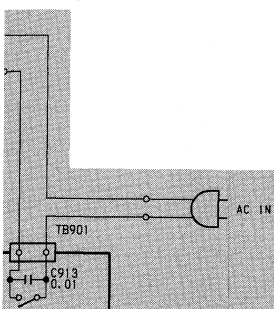
- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

- Components for right channel have same values as for left channel. Reference numbers are coded from 200 and 400.
-  : nonflammable resistor.
-  : fusible resistor.

Ref. No.	Switch	Position
S101-1, 5	PHONO	ON
S101-2, 6	TUNER	OFF
S101-3, 7	CD	OFF
S101-4, 8	TAPE	OFF
S301	ISS	1
S302	DOLBY NR	OFF
S401	MUTE	OFF
S402	●	OFF
S403	◄►	OFF
S404	I/II	I
S405	MOTOR	OFF
S406	◄►	OFF
S701	DOL	OFF
S901	POWER	OFF
S902	DC SW	OFF

-  : B+ bus.
-  : B- bus.
-  : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 k Ω /V).
- () : REC
- No mark : STOP
-  : signal path



SECTION 3

EXPLODED VIEWS AND PARTS LIST

NOTE:

The mechanical parts with no reference number in the exploded views are not supplied.

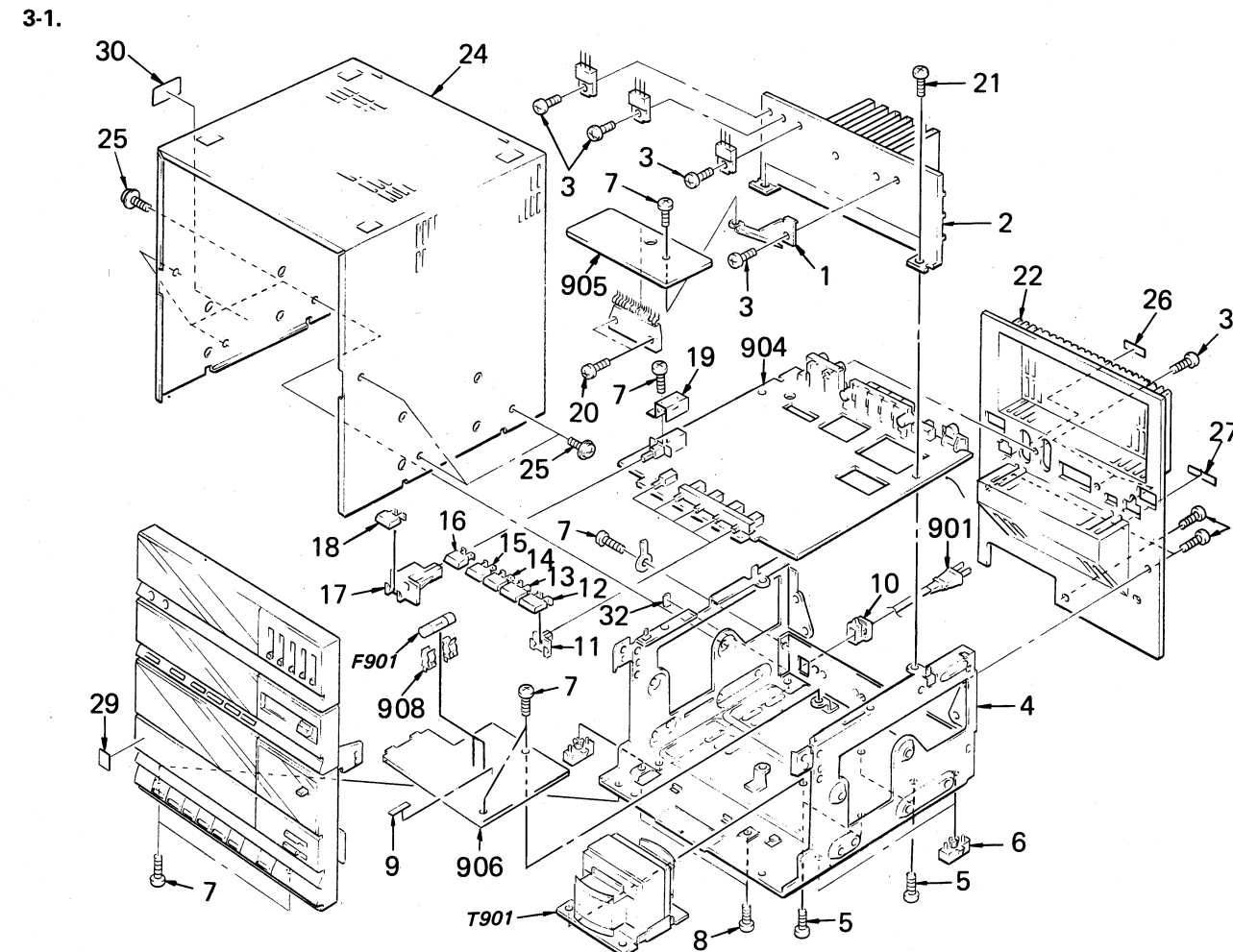
Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The construction parts of an assembled part are indicated with a collation number in the remark column.

Color Indication of Appearance Parts
Example: (RED) KNOB, BALANCE (WHITE)

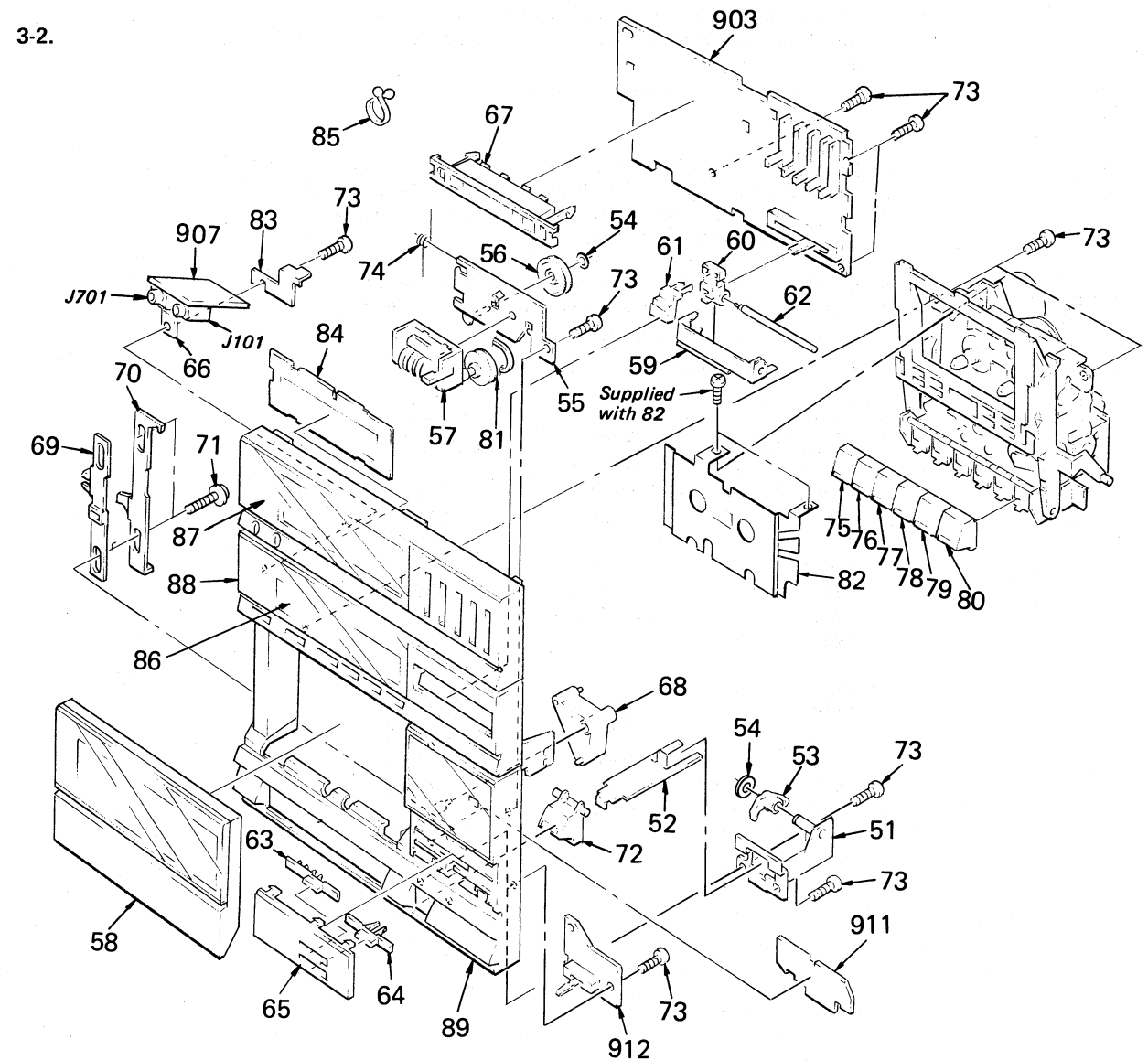
Cabinet's Color Parts' Color

The components identified by shading and mark  are critical for safety. Replace only with part number specified.



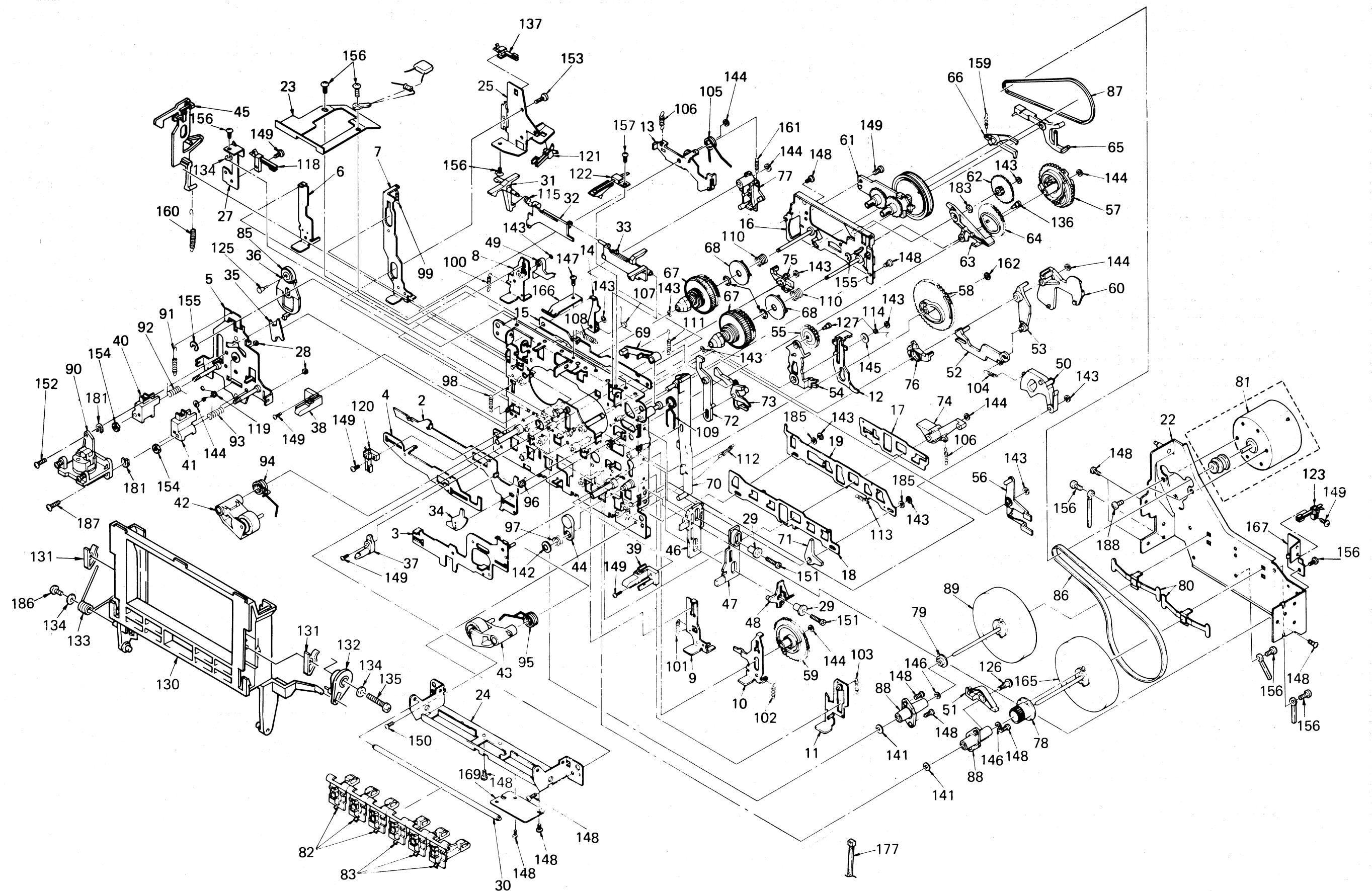
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	*4-910-064-01	BRACKET (H), PC BOARD		19	*4-920-828-01	COVER, AC	
2	*4-919-663-21	HEAT SINK		20	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3		21	7-685-782-01	SCREW BVTT 3X8	
4	*X-4919-621-1	CHASSIS ASSY		22	*4-919-664-11	PLATE, JACK	
5	7-682-160-01	SCREW +BVTT 4X6 (S)		24	4-919-641-01	CASE	
6	X-4902-937-1	FOOT ASSY, RUBBER		25	4-886-821-21	SCREW, M3 CASE STOPPER	
7	7-682-147-01	SCREW +BVTT 3X6 (S)		26	*4-919-645-01	LABEL (B), CONNECTOR	
8	7-685-862-01	SCREW +BVTT 2.6X6 (S)		27	*4-919-644-01	LABEL (A), CONNECTOR	
9	*3-701-948-14	LABEL, FUSE		29	3-703-710-41	STICKER, SONY SYMBOL (12)	
10	*3-703-244-00	BUSHING (2104), CORD		30	*4-919-690-01	LABEL, MODEL NUMBER (AE)	
11	*4-919-654-01	JOINT, FUNCTION		32	9-911-840-XX	CUSHION	
12	4-914-396-51	BUTTON (PHONO)					
13	4-914-396-41	BUTTON (TUNER)		901	 1-558-944-11	CORD, POWER	
14	4-914-396-31	BUTTON (CD)		904	*A-4410-518-A	MOUNTED PCB, MAIN	
15	4-914-396-21	BUTTON (TAPE)		905	*1-622-659-11	PCB, POWER	
16	4-914-396-11	BUTTON (DOL)		906	*1-622-660-11	PCB, FUSE	
17	*4-919-659-01	JOINT, POWER		908	1-533-162-00	HOLDER, FUSE	
18	4-914-396-01	BUTTON (POWER)		F901	 1-532-078-00	FUSE, TIME-LAG	
				T901	 1-448-928-11	TRANSFORMER, POWER	

3-2.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	*X-4919-602-1	HOLDER ASSY, BUTTON LEVER		73	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
52	*4-919-647-01	LEVER, DIRECTION BUTTON		74	4-919-635-01	SPRING	
53	*4-919-631-01	ARM, DIRECTION		75	4-919-638-01	BUTTON, CONTROL	
54	3-558-708-01	WASHER, STOPPER		76	4-919-638-11	BUTTON, CONTROL	
55	*X-4919-605-1	BRACKET ASSY, COUNTER		77	4-919-638-21	BUTTON, CONTROL	
56	*4-915-308-01	PULLEY, MIDWAY		78	4-919-638-31	BUTTON, CONTROL	
57	1-548-589-51	COUNTER, TAPE (MIDDLE TYPE)		79	4-919-638-41	BUTTON, CONTROL	
58	X-4919-613-1	LID ASSY, CASSETTE		80	4-919-638-51	BUTTON, CONTROL	
59	4-919-662-01	HOUSE, VOLUME		81	3-329-930-01	BELT, COUNTER	
60	*4-919-658-01	JOINT, VOL		82	4-919-697-01	PLATE, ORNAMENTAL, CASSETTE	
61	4-919-639-01	KNOB, VOLUME		83	*4-920-831-01	REINFORCEMENT	
62	*4-919-655-01	SHAFT, SLIDE		84	4-919-653-11	SHEET (A), INDICATION	
63	4-919-651-01	KNOB, MODE		85	3-315-159-01	PURSE LOCK (DIA. 14)	
64	4-919-634-01	KNOB, DOLBY		86	4-914-397-21	PLATE (FUNCTION), INDICATION	
65	4-919-637-01	PANEL, ORNAMENTAL		87	4-919-661-61	PLATE (A), ORNAMENTAL	
66	*4-919-656-01	BRACKET, HP		88	4-919-660-61	PLATE (B), ORNAMENTAL	
67	*4-919-695-01	HOUSE (LEVEL), LED		89	X-4919-614-1	PANEL ASSY	
68	*4-919-649-01	ARM, MODE		907	*1-622-526-11	PC BOARD, JACK	
69	*4-919-633-01	SLIDER, MODE		911	1-622-527-12	PCB, LED	
70	*4-919-632-01	SLIDER, DIRECTION		912	1-622-528-11	PCB, DOLBY NR	
71	7-685-648-79	SCREW, TAPPING		J101	1-507-974-11	JACK	
72	4-919-636-01	BUTTON, DIRECTION		J701	1-563-951-11	JACK	

3-3.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
2	*3-598-602-01	LEVER (B), RV		49	3-598-648-01	ARM, PLAY		96	3-598-694-01	SP, HEAD CHASSIS RETURN		147	7-685-850-01	SCREW +BVTT 2X3 (S)	
3	*3-598-603-01	LEVER ASSY, RV		50	3-598-649-01	ARM (F/R), GEAR LOCK		97	3-598-695-01	SP, PAUSE CAM		148	7-685-781-04	SCREW +PTT 2X4 (S)	
				51	3-598-650-01	ARM, F/R		98	3-598-696-01	SP, STOP LEVER		147	7-685-850-01	SCREW +BVTT 2X3 (S)	
4	*3-598-604-01	STOPPER (B), REC		52	3-598-652-01	LEVER (A), P CONTROL		99	3-598-697-01	SP, REC LEVER		148	7-685-781-04	SCREW +PTT 2X4 (S)	
5	*3-598-605-01	CHASSIS ASSY, HEAD		53	3-598-651-01	LEVER (B), P CONTROL		100	3-598-698-01	SP, PLAY LEVER		149	7-621-255-35	SCREW +P 2X5	
6	*3-598-606-01	LEVER, STOP		54	3-598-653-01	ARM, F/R IDLER		101	3-598-699-01	SP, REW LEVER		150	7-685-784-04	SCREW +PTT 2X8 (S)	
7	3-598-607-01	LEVER, REC		55	3-598-654-01	GEAR, F/R		102	3-598-700-01	SP, FF LEVER		151	7-685-785-04	SCREW +PTT 2X10 (S)	
8	*3-598-608-01	LEVER ASSY, PLAY		56	3-390-123-01	LEVER, REC MOVEMENT		103	3-598-701-01	SP, PAUSE LEVER		152	7-621-255-25	SCREW +P 2X4	
9	*3-598-609-01	LEVER, REW		57	3-598-656-01	GEAR, RV CAM		104	3-598-702-01	SP, P CONTROL LEVER		153	7-621-255-35	SCREW +P 2X5	
10	*3-598-610-01	LEVER, FF		58	3-598-657-01	GEAR, P CAM		105	3-598-703-01	SP, SHIFT ARM		154	7-622-205-25	NUT M2 TYPE2	
11	*3-598-611-01	LEVER ASSY, PAUSE		59	3-598-658-01	GEAR, F/R CAM		106	3-598-704-01	SP, SHIFT ARM RETURN		155	7-624-104-04	STOP RING 2.0, TYPE -E	
12	3-598-612-01	CANCELLER, AUTO		60	3-598-659-01	ARM (RV), GEAR LOCK		107	3-598-705-01	SP, REC CONTROL ARM		156	7-685-790-04	SCREW +PTT 2.6X4 (S)	
13	*3-598-613-01	ARM ASSY, SHIFT		61	3-598-660-01	CLUTCH ASSY (B)		108	3-598-706-01	SP, REC STOPPER		157	7-685-791-04	SCREW +PTT 2.6X5 (S)	
14	*3-598-614-01	ARM, REC CONTROL		62	3-390-124-01	GEAR, AUTO		109	3-598-707-01	SP, RV ARM		159	3-598-755-01	SP (B), AUTO ARM	
15	*3-598-615-01	STOPPER (A), REC		63	3-598-662-01	ARM, AUTO CAM		110	3-598-708-01	SP (B), BACK TENSION		160	3-598-759-01	SP, E LEVER	
16	3-598-713-01	BRACKET ASSY (B), REEL		64	3-598-663-01	GEAR (B), AUTO CAM		111	3-598-709-01	SP-B, AS DIRECTION ARM		161	3-598-760-01	SPE, GEAR LOCK ARM (P)	
17	*3-390-103-01	CAM, INTER LOCK		65	3-598-664-01	SENSOR, AUTO		112	3-598-710-01	SP, AUTO STOP		162	3-598-753-01	WASHER, POLYETHYLENE	
18	*3-390-102-01	CAM (B), LOCK		66	3-598-665-01	ARM, AUTO		113	3-598-711-01	SP, CAM		165	*3-598-764-01	FLYWHEEL (E)	
19	*3-598-619-01	CAM (ES) (B), LOCK		67	3-598-666-01	REEL (B) ASSY		114	3-598-712-01	SP, BRAKE ARM		166	*3-598-623-01	SPRING	
22	*3-390-119-01	BRACKET, MOTOR		68	3-598-667-01	CLUTCH, AUTO		115	3-390-128-01	SP (L)		167	*3-390-104-01	BRACKET, LEAF SW	
23	*3-390-107-01	BRACKET, SELECT SW		69	3-598-668-01	ARM, AS DIRECTION		117	7-623-923-01	WASHER 2.6, NYLON		169	*1-623-575-11	HEAD PCB	
24	*3-598-624-01	BKT (S), BUTTON		70	3-598-669-01	LEVER, AUTO STOP		118	1-570-572-11	SWITCH, LEAF (REC S402)		176	3-701-822-00	HOLDER, WIRE	
25	*3-598-741-01	BKT, SSW		71	3-598-670-01	LEVER, CAM RELEASE		119	3-598-716-01	SP (B), P IDLER		177	*2-277-426-01	CLAMP	
27	*3-390-105-01	BRACKET, REC SW		72	3-598-671-01	ARM, MODE		120	1-570-572-11	SWITCH, LEAF (DIRECTION 1 S403)		179	3-701-749-00	HOLDER, WIRE	
28	*3-598-627-01	ROLLER, GUIDE		73	3-598-672-01	ARM, DIRECTION		121	1-570-570-11	SWITCH, LEAF (MOTOR S405)		180	7-623-507-01	LUG, 2.6	
29	3-598-628-01	COLLER		74	3-598-673-01	ARM (F/R), SHIFT		122	1-570-305-11	SWITCH, LEAF (I/II S404)		181	3-513-237-11	PLATE	
30	*3-598-629-01	SHAFT, BUTTON		75	3-598-675-01	ARM (RIGHT), BRAKE		123	1-571-185-11	LEAF SWITCH (DIRECTION 2 S406)		183	3-701-437-01	WASHER	
31	3-390-120-01	SENSOR (L), REC		76	3-598-674-01	ARM (LEFT), BRAKE		125	3-598-717-01	SHAFT, IDLER		185	3-701-437-21	WASHER	
32	3-598-631-01	SENSOR (M), REC		77	3-598-676-01	ARM (P), GEAR LOCK		126	3-598-718-01	SCREW, SPECIAL		186	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT	
33	3-598-632-01	SENSOR (RIGHT), REC		78	3-598-677-01	GEAR, FLYWHEEL		127	3-598-719-01	SHAFT (F/R), GEAR		187	7-621-255-25	SCREW +P 2X4	
34	3-598-762-01	ARM, I MODE		79	3-598-678-01	COLLER, FLYWHEEL		130	3-390-129-01	CASE (TCM), CASSETTE		188	7-621-259-15	SCREW +P 2.6X3	
35	3-598-634-01	ARM, IDLER		80	3-598-679-01	SPACER, CAPSTAN		131	3-390-130-01	CLAMP, CASSETTE					
36	3-598-635-01	ARM, P IDLER		81	3-390-125-01	MOTOR ASSY		132	3-390-131-01	DAMPER ASSY					
37	3-598-636-01	POLE, GUIDE		82	3-598-681-01	LEVER (LEFT), BUTTON		133	3-390-132-01	SPRING (B)					
38	3-598-637-01	GUIDE (LEFT), CASSETTE		83	3-598-682-01	LEVER (RIGHT), BUTTON		134	7-688-002-01	W 2.6, MIDDLE					
39	3-598-638-01	GUIDE (RIGHT), CASSETTE		85	3-598-683-01	IDLER		135	7-621-259-75	SCREW +P 2.6X12					
40	3-598-639-01	GUIDE (LEFT), TAPE		86	3-390-126-01	BELT, DRIVE		136	3-598-758-01	SHAFT, AUTO CAM					
41	3-598-640-01	GUIDE (RIGHT), TAPE		87	3-390-127-01	BELT, FR		137	1-570-571-11	LEAF SWITCH (MUTING S401)					
42	3-390-121-01	ARM ASSY (LEFT), P ROLLER		88	3-598-686-01	BEARING ASSY		140	3-598-720-01	FELT, AUTO CLUTCH					
43	3-390-122-01	ARM ASSY (RIGHT), P ROLLER		89	3-598-687-01	FLYWHEEL (D)		141	3-554-222-00	WASHER (2), CAPSTAN					
44	3-598-643-01	CAM, PAUSE		90	3-390-114-01	ROTATION ASSY (RP)		142	7-623-923-01	WASHER 2.6, NYLON					
45	3-598-644-01	LEVER, EJECT		91	3-598-689-01	SP, IDLER		143	3-598-763-01	WASHER, POLYETHYLENE					
46	3-598-645-01	LEVER, MODE		92	3-598-690-01	SP (L), TAPE GUIDE		144	3-326-162-01	WASHER, POLYETHYLENE, SLIT					
47	3-598-646-01	LEVER, DIRECTION		93	3-598-691-01	SP (RIGHT), TAPE GUIDE		145	3-325-692-01	WASHER, STOPPER					
48	3-598-647-01	ARM, DIRECTION STOPPER		94	3-598-692-01	SP (LEFT), P ROLLER		146	3-701-437-11	WASHER					
				95	3-598-693-01	SP (RIGHT), P ROLLER									

SECTION 4
ELECTRICAL PARTS LIST

NOTE:

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

All resistors are in ohms.

F: nonflammable

COILS

MMH: mH, UH: μH

SEMICONDUCTORS

In each case, U: μ, for example:

UA...: μA..., UPA...: μPA..., UPC...: μPC,

UPD...: μPD...

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	★A-558-944-11	CORD, POWER
903	★A-4375-315-A	MOUNTED PCB, CONTROL
904	★A-4410-518-A	MOUNTED PCB, MAIN
905	*1-622-659-11	PCB, POWER
906	*1-622-660-11	PCB, FUSE
907	*1-622-526-11	PC BOARD, JACK
908	1-533-162-00	HOLDER, FUSE
909	*1-535-116-00	TERMINAL
910	*1-535-140-00	BASE POST 22MM (10MM PITCH) 3P
911	1-622-527-12	PCB, LED
912	1-622-528-11	PCB, DOLBY NR
913	1-535-416-00	TERMINAL
BU301	1-464-791-11	OSCILLATION UNIT, BIAS
C101	1-123-875-91	ELECT 10MF 20% 50V
C102	1-162-282-31	CERAMIC 100PF 10% 50V
C103	1-162-282-31	CERAMIC 100PF 10% 50V
C104	1-124-925-11	ELECT 2.2MF 20% 50V
C105	1-136-159-00	FILM 0.033MF 5% 50V
C106	1-136-159-00	FILM 0.033MF 5% 50V
C107	1-136-155-00	FILM 0.015MF 5% 50V
C108	1-136-155-00	FILM 0.015MF 5% 50V
C109	1-130-475-00	MYLAR 0.0022MF 5% 50V
C110	1-124-925-11	ELECT 2.2MF 20% 50V
C111	1-162-286-31	CERAMIC 220PF 10% 50V
C112	1-124-925-11	ELECT 2.2MF 20% 50V
C113	1-124-443-00	ELECT 100MF 20% 10V
C122	1-124-925-11	ELECT 2.2MF 20% 50V
C124	1-162-294-31	CERAMIC 0.001MF 10% 50V
C125	1-162-290-31	CERAMIC 470PF 10% 50V
C127	1-130-480-00	MYLAR 0.0056MF 5% 50V
C128	1-130-473-00	MYLAR 0.0015MF 5% 50V
C129	1-123-617-00	ELECT 10MF 20% 16V
C130	1-123-875-91	ELECT 10MF 20% 50V
C131	1-161-379-00	CERAMIC 0.01MF 30% 16V
C151	1-124-925-11	ELECT 2.2MF 20% 50V
C152	1-161-494-00	CERAMIC 0.022MF 25V
C153	1-124-925-11	ELECT 2.2MF 20% 50V
C154	1-124-444-00	ELECT 220MF 20% 10V
C155	1-161-494-00	CERAMIC 0.022MF 25V
C156	1-124-477-11	ELECT 47MF 20% 25V
C157	1-136-153-00	FILM 0.01MF 5% 50V
C158	1-124-927-11	ELECT 4.7MF 20% 50V
C175	1-123-617-00	ELECT 10MF 20% 16V
C176	1-123-617-00	ELECT 10MF 20% 16V
C201	1-123-875-91	ELECT 10MF 20% 50V
C202	1-162-282-31	CERAMIC 100PF 10% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C203	1-162-282-31	CERAMIC 100PF 10% 50V
C204	1-124-925-11	ELECT 2.2MF 20% 50V
C205	1-136-159-00	FILM 0.033MF 5% 50V
C206	1-136-159-00	FILM 0.033MF 5% 50V
C207	1-136-155-00	FILM 0.015MF 5% 50V
C208	1-136-155-00	FILM 0.015MF 5% 50V
C209	1-130-475-00	MYLAR 0.0022MF 5% 50V
C210	1-124-925-11	ELECT 2.2MF 20% 50V
C211	1-162-286-31	CERAMIC 220PF 10% 50V
C212	1-124-925-11	ELECT 2.2MF 20% 50V
C213	1-124-443-00	ELECT 100MF 20% 10V
C222	1-124-925-11	ELECT 2.2MF 20% 50V
C224	1-162-294-31	CERAMIC 0.001MF 10% 50V
C225	1-162-290-31	CERAMIC 470PF 10% 50V
C227	1-130-480-00	MYLAR 0.0056MF 5% 50V
C228	1-130-473-00	MYLAR 0.0015MF 5% 50V
C229	1-123-875-91	ELECT 10MF 20% 50V
C230	1-123-875-91	ELECT 10MF 20% 50V
C231	1-161-379-00	CERAMIC 0.01MF 30% 16V
C301	1-162-292-31	CERAMIC 680PF 10% 50V
C302	1-162-282-31	CERAMIC 100PF 10% 50V
C303	1-124-443-00	ELECT 100MF 20% 10V
C304	1-136-157-00	FILM 0.022MF 5% 50V
C305	1-124-927-11	ELECT 4.7MF 20% 50V
C306	1-123-875-91	ELECT 10MF 20% 50V
C307	1-136-157-00	FILM 0.022MF 5% 50V
C308	1-162-290-31	CERAMIC 470PF 10% 50V
C309	1-162-290-31	CERAMIC 470PF 10% 50V
C310	1-124-927-11	ELECT 4.7MF 20% 50V
C311	1-162-282-31	CERAMIC 100PF 10% 50V
C312	1-136-163-00	FILM 0.068MF 5% 50V
C313	1-124-927-11	ELECT 4.7MF 20% 50V
C314	1-130-480-00	MYLAR 0.0056MF 5% 50V
C315	1-136-155-00	FILM 0.015MF 5% 50V
C316	1-162-282-31	CERAMIC 100PF 10% 50V
C317	1-124-927-11	ELECT 4.7MF 20% 50V
C318	1-162-286-31	CERAMIC 220PF 10% 50V
C353	1-131-346-00	TANTALUM 0.68MF 10% 35V
C354	1-131-346-00	TANTALUM 0.68MF 10% 35V
C356	1-123-875-91	ELECT 10MF 20% 50V
C357	1-124-477-11	ELECT 47MF 20% 25V
C358	1-123-875-91	ELECT 10MF 20% 50V
C359	1-124-925-11	ELECT 2.2MF 20% 50V
C360	1-106-172-00	MYLAR 0.001MF 10% 100V
C361	1-106-347-00	MYLAR 0.0015MF 10% 100V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C363	1-161-379-00	CERAMIC 0.01MF 30% 16V
C364	1-123-875-91	ELECT 10MF 20% 50V
C365	1-124-477-11	ELECT 47MF 20% 25V
C366	1-124-477-11	ELECT 47MF 20% 25V
C401	1-162-292-31	CERAMIC 680PF 10% 50V
C402	1-162-282-31	CERAMIC 100PF 10% 50V
C403	1-124-443-00	ELECT 100MF 20% 10V
C404	1-136-157-00	FILM 0.022MF 5% 50V
C405	1-124-927-11	ELECT 4.7MF 20% 50V
C406	1-123-875-91	ELECT 10MF 20% 50V
C407	1-136-157-00	FILM 0.022MF 5% 50V
C408	1-162-290-31	CERAMIC 470PF 10% 50V
C409	1-162-290-31	CERAMIC 470PF 10% 50V
C410	1-124-927-11	ELECT 4.7MF 20% 50V
C411	1-162-282-31	CERAMIC 100PF 10% 50V
C412	1-136-163-00	FILM 0.068MF 5% 50V
C413	1-124-927-11	ELECT 4.7MF 20% 50V
C414	1-130-480-00	MYLAR 0.0056MF 5% 50V
C415	1-136-155-00	FILM 0.015MF 5% 50V
C416	1-162-282-31	CERAMIC 100PF 10% 50V
C417	1-124-927-11	ELECT 4.7MF 20% 50V
C418	1-162-286-31	CERAMIC 220PF 10% 50V
C701	1-124-925-11	ELECT 2.2MF 20% 50V
C702	1-162-288-31	CERAMIC 330PF 10% 50V
C703	1-162-290-31	CERAMIC 470PF 10% 50V
C704	1-124-477-11	ELECT 47MF 20% 25V
C705	1-124-910-11	ELECT 47MF 20% 50V
C706	1-136-165-00	FILM 0.1MF 5% 50V
C707	1-123-875-91	ELECT 10MF 20% 50V
C708	1-124-443-00	ELECT 100MF 20% 10V
C709	1-136-165-00	FILM 0.1MF 5% 50V
C710	1-124-122-11	ELECT 100MF 20% 50V
C711	1-124-477-11	ELECT 47MF 20% 25V
C751	1-124-925-11	ELECT 2.2MF 20% 50V
C752	1-162-217-31	CERAMIC 56PF 5% 50V
C753	1-162-282-31	CERAMIC 100PF 10% 50V
C757	1-124-925-11	ELECT 2.2MF 20% 50V
C758	1-124-657-00	ELECT 10MF 20% 50V
C759	1-124-463-00	ELECT 0.1MF 20% 50V
C770	1-124-463-00	ELECT 0.1MF 20% 50V
C801	1-124-925-11	ELECT 2.2MF 20% 50V
C802	1-162-288-31	CERAMIC 330PF 10% 50V
C803	1-162-290-31	CERAMIC 470PF 10% 50V
C804	1-124-477-11	ELECT 47MF 20% 25V
C805	1-124-910-11	ELECT 47MF 20% 50V
C809	1-136-165-00	FILM 0.1MF 5% 50V
C851	1-124-925-11	ELECT 2.2MF 20% 50V
C852	1-162-217-31	CERAMIC 56PF 5% 50V
C853	1-162-282-31	CERAMIC 100PF 10% 50V
C857	1-124-925-11	ELECT 2.2MF 20% 50V
C870	1-124-463-00	ELECT 0.1MF 20% 50V
C901	1-136-171-00	FILM 0.33MF 5% 50V
C902	1-136-171-00	FILM 0.33MF 5% 50V
C903	1-124-362-00	ELECT 4700MF 20% 42V
C904	1-124-362-00	ELECT 4700MF 20% 42V
C906	1-136-153-00	FILM 0.01MF 5% 50V
C907	1-136-153-00	FILM 0.01MF 5% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C908	1-124-564-11	ELECT 4700MF 20% 25V
C909	1-124-564-11	ELECT 4700MF 20% 25V
C910	1-123-875-91	ELECT 10MF 20% 50V
C911	1-123-875-91	ELECT 10MF 20% 50V
C912	1-123-875-91	ELECT 10MF 20% 50V
C913	★A-1-161-744-00	CERAMIC 0.01MF 400V
C915	1-123-875-91	ELECT 10MF 20% 50V
C916	1-123-875-91	ELECT 10MF 20% 50V
C917	1-123-875-91	ELECT 10MF 20% 50V
CB701	1-532-657-00	BREAKER, CIRCUIT
CB801	1-532-657-00	BREAKER, CIRCUIT
CNJ102	1-562-067-00	SOCKET, CONNECTOR 5P
CNP101*1	1-564-517-11	PLUG, CONNECTOR 2P
CNP201*1	1-564-518-21	PLUG, CONNECTOR 3P
CNP301*1	1-564-509-11	PLUG, CONNECTOR 6P
CNP302*1	1-564-505-11	PLUG, CONNECTOR 2P
CNP351*1	1-560-061-00	PIN, CONNECTOR 3P
CNP501*1	1-564-507-11	PLUG, CONNECTOR 4P
CNP502*1	1-564-510-11	PLUG, CONNECTOR 7P
CNP705*1	1-564-518-11	PLUG, CONNECTOR 3P
CNP706*1	1-564-508-11	PLUG, CONNECTOR 5P
CNP707*1	1-564-517-21	PLUG, CONNECTOR 2P
CNP708*1	1-564-518-11	PLUG, CONNECTOR 3P
CNP801*1	1-564-336-00	PIN, CONNECTOR 2P
CNP802*1	1-564-339-00	PIN, CONNECTOR 5P
CNP804*1	1-564-340-61	PIN, CONNECTOR 6P
CNP805*1	1-564-341-11	PIN, CONNECTOR 7P
CNP806*1	1-564-498-11	PIN, CONNECTOR 5P
CNP901	1-566-211-11	PIN, CONNECTOR 4P
D151	8-719-301-43	DIODE SEL2410E-C
D152	8-719-302-95	DIODE SEL2710W-C
D153	8-719-302-95	DIODE SEL2710W-C
D154	8-719-302-95	DIODE SEL2710W-C
D155	8-719-302-95	DIODE SEL2710W-C
D156	8-719-302-95	DIODE SEL2710W-C
D157	8-719-302-95	DIODE SEL2710W-C
D158	8-719-301-52	DIODE SEL2810A
D159	8-719-301-52	DIODE SEL2810A
D160	8-719-301-52	DIODE SEL2810A
D161	8-719-301-52	DIODE SEL2810A
D162	8-719-301-60	DIODE SEL2910A
D163	8-719-301-43	DIODE SEL2410E-C
D164	8-719-301-43	DIODE SEL2410E-C
D165	8-719-301-43	DIODE SEL2410E-C
D166	8-719-301-43	DIODE SEL2410E-C
D351	8-719-940-76	DIODE 1SS132
D352	8-719-940-76	DIODE 1SS132
D353	8-719-940-76	DIODE 1SS132
D354	8-719-940-76	DIODE 1SS132
D355	8-719-940-76	DIODE 1SS132
D356	8-719-940-76	DIODE 1SS132
D357	8-719-910-15	DIODE HZ1182L
D358	8-719-301-38	DIODE SEL2210S-C
D359	8-719-301-43	DIODE SEL2410E-C
D360	8-719-301-43	DIODE SEL2410E-C
D701	8-719-200-47	DIODE 10YD4.5B

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D702	8-719-000-26	DIODE US1060M
D703	8-719-000-26	DIODE US1060M
D751	8-719-000-26	DIODE US1060M
D801	8-719-200-47	DIODE 10YD4.5B
D901	8-719-302-36	DIODE RBV-402-01
D902	8-719-200-77	DIODE 10E2N
D905	8-719-200-82	DIODE 11ES2
D906	8-719-200-82	DIODE 11ES2
D908	8-719-200-77	DIODE 10E2N
D909	8-719-200-77	DIODE 10E2N
D910	8-719-200-77	DIODE 10E2N
D911	8-719-200-77	DIODE 10E2N
D912	8-719-940-76	DIODE 1SS132
D913	8-719-910-99	DIODE HZ9C3L
D914	8-719-200-29	DIODE 11DQ04
D951	8-719-940-76	DIODE 1SS132
D952	8-719-940-76	DIODE 1SS132
D953	8-719-940-76	DIODE 1SS132
D954	8-719-940-76	DIODE 1SS132
D955	8-719-940-76	DIODE 1SS132
F901	1-532-078-00	FUSE, TIME-LAG
IC101	8-759-600-02	IC M5218L
IC102	8-759-600-02	IC M5218L
IC103	8-759-106-61	IC UPC4570HA
IC151	8-759-917-42	IC IR2E31A
IC301	8-759-106-61	IC UPC4570HA
IC302	8-752-031-83	IC CXA1101P
IC303	8-759-600-02	IC M5218L
IC701	8-749-900-95	IC STK4122MK2
IC751	8-759-600-02	IC M5218L
IC901	8-759-604-84	IC M5F7806
IC902	8-759-604-85	IC M5F7906
ICP001	1-532-846-21	LINK, IC
J101	1-507-974-11	JACK
J102	1-507-908-11	JACK, PIN 4P
J701	1-563-951-11	JACK
L301	1-410-779-21	MICRO INDUCTOR 22MMH
L302	1-410-779-21	MICRO INDUCTOR 22MMH
L351	1-408-088-00	MICRO INDUCTOR 220UH
L401	1-410-779-21	MICRO INDUCTOR 22MMH
L402	1-410-779-21	MICRO INDUCTOR 22MMH
L901	1-408-117-00	MICRO INDUCTOR 10UH
L902	1-408-117-00	MICRO INDUCTOR 10UH
Q151	8-729-600-27	TRANSISTOR 2SC634SP
Q301	8-729-806-34	TRANSISTOR 2SC3400
Q302	8-729-806-34	TRANSISTOR 2SC340
Q303	8-729-806-34	TRANSISTOR 2SC3400
Q304	8-729-806-26	TRANSISTOR 2SC3901
Q305	8-729-600-27	TRANSISTOR 2SC634SP
Q351	8-729-600-27	TRANSISTOR 2SC634SP
Q352	8-729-600-27	TRANSISTOR 2SC634SP
Q353	8-729-806-34	TRANSISTOR 2SC3400
Q354	8-729-102-03	TRANSISTOR 2SD1020
Q355	8-729-107-25	TRANSISTOR 2SD1585-L
Q356	8-729-117-54	TRANSISTOR 2SA1175

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q401	8-729-806-34	TRANSISTOR 2SC3400
Q402	8-729-806-34	TRANSISTOR 2SC3400
Q403	8-729-806-34	TRANSISTOR 2SC3400
Q404	8-729-806-26	TRANSISTOR 2SC3901
Q405	8-729-600-27	TRANSISTOR 2SC634SP
Q701	8-729-600-27	TRANSISTOR 2SC634SP
Q702	8-729-600-60	TRANSISTOR 2SA1048-GR
Q703	8-729-600-60	TRANSISTOR 2SA1048-GR
Q751	8-729-806-26	TRANSISTOR 2SC3901
Q801	8-729-600-27	TRANSISTOR 2SC634SP
Q802	8-729-660-60	TRANSISTOR 2SA1048-GR
Q851	8-729-806-26	TRANSISTOR 2SC3901
R101	1-249-425-11	CARBON 4.7K 5% 1/6W
R102	1-249-420-11	CARBON 1.8K 5% 1/6W
R103	1-249-438-11	CARBON 56K 5% 1/6W
R104	1-249-437-11	CARBON 47K 5% 1/6W
R105	1-249-429-11	CARBON 10K 5% 1/6W
R106	1-249-429-11	CARBON 10K 5% 1/6W
R107	1-249-429-11	CARBON 10K 5% 1/6W
R108	1-249-421-11	CARBON 2.2K 5% 1/6W
R109	1-249-421-11	CARBON 2.2K 5% 1/6W
R110	1-249-421-11	CARBON 2.2K 5% 1/6W
R112	1-249-421-11	CARBON 2.2K 5% 1/6W
R113	1-249-421-11	CARBON 2.2K 5% 1/6W
R114	1-249-425-11	CARBON 4.7K 5% 1/6W
R115	1-215-487-00	CARBON 560K 5% 1/6W
R116	1-249-428-11	CARBON 8.2K 5% 1/6W
R117	1-249-417-11	CARBON 1K 5% 1/6W
R121	1-249-441-11	CARBON 100K 5% 1/6W
R122	1-249-417-11	CARBON 1K 5% 1/6W
R123	1-247-891-00	CARBON 330K 5% 1/6W
R124	1-249-429-11	CARBON 10K 5% 1/6W
R125	1-249-438-11	CARBON 56K 5% 1/6W
R127	1-215-487-00	CARBON 560K 5% 1/6W
R128	1-249-437-11	CARBON 47K 5% 1/6W
R129	1-249-423-11	CARBON 3.3K 5% 1/6W
R130	1-249-435-11	CARBON 33K 5% 1/6W
R131	1-249-419-11	CARBON 1.5K 5% 1/6W
R150	1-249-429-11	CARBON 10K 5% 1/6W
R151	1-249-405-11	CARBON 100 5% 1/6W
R152	1-249-429-11	CARBON 10K 5% 1/6W
R153	1-249-437-11	CARBON 47K 5% 1/6W
R154	1-249-422-11	CARBON 2.7K 5% 1/6W
R155	1-249-417-11	CARBON 1K 5% 1/6W
R157	1-249-429-11	CARBON 10K 5% 1/6W
R158	1-249-402-11	CARBON 56 5% 1/6W
R159	1-249-437-11	CARBON 47K 5% 1/6W
R160	1-249-415-11	CARBON 680 5% 1/6W
R161	1-249-415-11	CARBON 680 5% 1/6W
R162	1-249-410-11	CARBON 270 5% 1/6W
R163	1-249-410-11	CARBON 270 5% 1/6W
R176	1-249-434-11	CARBON 27K 5% 1/6W
R201	1-249-425-11	CARBON 4.7K 5% 1/6W
R202	1-249-420-11	CARBON 1.8K 5% 1/6W
R203	1-249-438-11	CARBON 56K 5% 1/6W
R204	1-249-437-11	CARBON 47K 5% 1/6W
R205	1-249-429-11	CARBON 10K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R206	1-249-429-11	CARBON 10K 5% 1/6W
R207	1-249-429-11	CARBON 10K 5% 1/6W
R208	1-249-421-11	CARBON 2.2K 5% 1/6W
R209	1-249-421-11	CARBON 2.2K 5% 1/6W
R210	1-249-421-11	CARBON 2.2K 5% 1/6W
R212	1-249-421-11	CARBON 2.2K 5% 1/6W
R213	1-249-421-11	CARBON 2.2K 5% 1/6W
R214	1-249-425-11	CARBON 4.7K 5% 1/6W
R215	1-215-487-00	CARBON 560K 5% 1/6W
R216	1-249-428-11	CARBON 8.2K 5% 1/6W
R217	1-249-417-11	CARBON 1K 5% 1/6W
R221	1-249-441-11	CARBON 100K 5% 1/6W
R222	1-249-417-11	CARBON 1K 5% 1/6W
R223	1-247-891-00	CARBON 330K 5% 1/6W
R224	1-249-429-11	CARBON 10K 5% 1/6W
R225	1-249-438-11	CARBON 56K 5% 1/6W
R227	1-215-487-00	CARBON 560K 5% 1/6W
R22	1-249-437-11	CARBON 47K 5% 1/6W
R229	1-249-423-11	CARBON 3.3K 5% 1/6W
R230	1-249-435-11	CARBON 33K 5% 1/6W
R231	1-249-419-11	CARBON 1.5K 5% 1/6W
R276	1-249-434-11	CARBON 27K 5% 1/6W
R301	1-215-487-00	CARBON 560K 5% 1/6W
R302	1-249-399-11	CARBON 33 5% 1/6W
R303	1-247-883-00	CARBON 150K 5% 1/6W
R304	1-249-425-11	CARBON 4.7K 5% 1/6W
R305	1-249-421-11	CARBON 2.2K 5% 1/6W
R306	1-249-422-11	CARBON 2.7K 5% 1/6W
R307	1-249-431-11	CARBON 15K 5% 1/6W
R308	1-249-429-11	CARBON 10K 5% 1/6W
R310	1-249-423-11	CARBON 3.3K 5% 1/6W
R311	1-249-435-11	CARBON 33K 5% 1/6W
R312	1-249-435-11	CARBON 33K 5% 1/6W
R313	1-249-414-11	CARBON 560 5% 1/6W
R314	1-249-429-11	CARBON 10K 5% 1/6W
R315	1-249-422-11	CARBON 2.7K 5% 1/6W
R316	1-249-429-11	CARBON 10K 5% 1/6W
R317	1-249-414-11	CARBON 560 5% 1/6W
R318	1-249-433-11	CARBON 22K 5% 1/6W
R319	1-249-429-11	CARBON 10K 5% 1/6W
R320	1-247-849-00	CARBON 5.6K 5% 1/6W
R321	1-249-438-11	CARBON 56K 5% 1/6W
R322	1-249-428-11	CARBON 8.2K 5% 1/6W
R323	1-249-417-11	CARBON 1K 5% 1/6W
R324	1-249-417-11	CARBON 1K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R355	1-202-471-00	SOLID 4.7M 5% 1/4W
R356	1-249-417-11	CARBON 1K 5% 1/6W
R357	1-249-421-11	CARBON 2.2K 5% 1/6W
R358	1-249-413-11	CARBON 470 5% 1/6W
R359	1-249-412-11	CARBON 390 5% 1/6W
R360	1-249-415-11	CARBON 680 5% 1/6W
R361	1-249-429-11	CARBON 10K 5% 1/6W
R363	1-249-408-11	CARBON 180 5% 1/6W
R364	1-249-417-11	CARBON 1K 5% 1/6W
R365	1-249-416-11	CARBON 820 5% 1/6W
R366	1-249-441-11	CARBON 100K 5% 1/6W
R377	1-249-417-11	CARBON 1K 5% 1/6W
R378	1-249-414-11	CARBON 560 5% 1/6W
R380	1-249-408-11	CARBON 180 5% 1/6W
R401	1-215-487-00	CARBON 560K 5% 1/6W
R402	1-249-399-11	CARBON 33 5% 1/6W
R403	1-247-883-00	CARBON 150K 5% 1/6W
R404	1-249-425-11	CARBON 4.7K 5% 1/6W
R405	1-249-421-11	CARBON 2.2K 5% 1/6W
R406	1-249-422-11	CARBON 2.7K 5% 1/6W
R407	1-249-431-11	CARBON 15K 5% 1/6W
R408	1-215-460-00	CARBON 43K 5% 1/6W
R410	1-249-423-11	CARBON 3.3K 5% 1/6W
R411	1-249-435-11	CARBON 33K 5% 1/6W
R412	1-249-435-11	CARBON 33K 5% 1/6W
R413	1-249-414-11	CARBON 560 5% 1/6W
R414	1-249-429-11	CARBON 10K 5% 1/6W
R415	1-249-422-11	CARBON 2.7K 5% 1/6W
R416	1-249-429-11	CARBON 10K 5% 1/6W
R417	1-249-425-11	CARBON 4.7K 5% 1/6W
R418	1-249-433-11	CARBON 22K 5% 1/6W
R419	1-249-429-11	CARBON 10K 5% 1/6W
R420	1-247-849-00	CARBON 5.6K 5% 1/6W
R421	1-249-438-11	CARBON 56K 5% 1/6W
R422	1-249-428-11	CARBON 8.2K 5% 1/6W
R423	1-249-417-11	CARBON 1K 5% 1/6W
R424	1-249-417-11	CARBON 1K 5% 1/6W
R701	1-249-421-11	CARBON 2.2K 5% 1/6W
R702	1-249-438-11	CARBON 56K 5% 1/6W
R703	1-249-417-11	CARBON 1K 5% 1/6W
R704	1-249-438-11	CARBON 56K 5% 1/6W
R705	1-247-752-11	CARBON 1K 5% 1/2W F
R706	1-217-399-00	FUSIBLE 100 5% 1/4W F
R707	1-247-752-11	CARBON 1K 5% 1/2W F
R708	1-247-752-11	CARBON 1K 5% 1/2W F

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R709	1-249-425-11	CARBON	4.7K	5%	1/6W	
R710	1-249-409-11	CARBON	220	5%	1/6W	
R711	1-249-425-11	CARBON	4.7K	5%	1/6W	
R712	1-249-425-11	CARBON	4.7K	5%	1/6W	
R713-1	1-247-887-00	CARBON	220K	5%	1/6W	
R713-2	1-247-747-11	CARBON	470	5%	1/2W	
R714	△ 1-217-434-00	FUSIBLE	10	5%	1/2W	F
R715	1-249-429-11	CARBON	10K	5%	1/6W	
R716	1-249-429-11	CARBON	10K	5%	1/6W	
R717	1-249-421-11	CARBON	2.2K	5%	1/6W	
R718	1-249-419-11	CARBON	1.5K	5%	1/6W	
R730	△ 1-217-399-00	FUSIBLE	100	5%	1/4W	F
R751	1-249-417-11	CARBON	1K	5%	1/6W	
R752	1-249-438-11	CARBON	56K	5%	1/6W	
R753	1-249-429-11	CARBON	10K	5%	1/6W	
R754	1-249-434-11	CARBON	27K	5%	1/6W	
R756	1-249-441-11	CARBON	100K	5%	1/6W	
R758	1-247-895-00	CARBON	470K	5%	1/6W	
R759	1-249-428-11	CARBON	8.2K	5%	1/6W	
R760	1-249-414-11	CARBON	560	5%	1/6W	
R761	1-249-441-11	CARBON	100K	5%	1/6W	
R762	1-249-429-11	CARBON	10K	5%	1/6W	
R763	1-215-493-00	CARBON	1M	5%	1/6W	
R770	1-249-423-11	CARBON	3.3K	5%	1/6W	
R801	1-249-421-11	CARBON	2.2K	5%	1/6W	
R802	1-249-438-11	CARBON	56K	5%	1/6W	
R803	1-249-417-11	CARBON	1K	5%	1/6W	
R804	1-249-438-11	CARBON	56K	5%	1/6W	
R805	△ 1-247-752-11	CARBON	1K	5%	1/2W	F
R813	1-247-747-11	CARBON	470	5%	1/2W	
R814	△ 1-217-434-00	FUSIBLE	10	5%	1/2W	F
R815	1-249-429-11	CARBON	10K	5%	1/6W	
R817	1-249-421-11	CARBON	2.2K	5%	1/6W	
R818	1-249-419-11	CARBON	1.5K	5%	1/6W	
R851	1-249-417-11	CARBON	1K	5%	1/6W	
R852	1-249-438-11	CARBON	56K	5%	1/6W	
R853	1-249-429-11	CARBON	10K	5%	1/6W	
R854	1-249-434-11	CARBON	27K	5%	1/6W	
R856	1-249-441-11	CARBON	100K	5%	1/6W	
R858	1-247-895-00	CARBON	470K	5%	1/6W	
R859	1-249-428-11	CARBON	8.2K	5%	1/6W	
R870	1-249-423-11	CARBON	3.3K	5%	1/6W	
R902	1-249-429-11	CARBON	10K	5%	1/6W	
R903	△ 1-212-369-00	METAL OXIDE	5.6	5%	1W	F
R904	△ 1-212-369-00	METAL OXIDE	5.6	5%	1W	F

ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV101	1-237-655-11	RES, VAR, SLIDE 250K/250K
RV102	1-237-655-11	RES, VAR, SLIDE 250K/250K
RV103	1-237-655-11	RES, VAR, SLIDE 250K/250K
RV104	1-237-685-11	RES, VAR, SLIDE 100K
RV105	1-237-652-11	RES, VAR, SLIDE 50K/50K
RV151	1-237-684-11	RES, VAR, SLIDE 50K
RV301	1-230-630-11	RES, ADJ, CARBON 10K
RV302	1-230-630-11	RES, ADJ, CARBON 10K
RV303	1-228-997-00	RES, ADJ, CARBON 100K
RV401	1-230-630-11	RES, ADJ, CARBON 10K
RV402	1-230-630-11	RES, ADJ, CARBON 10K
RV403	1-228-997-00	RES, ADJ, CARBON 100K
RY301	1-515-608-11	RELAY
S101	1-571-045-11	SWITCH, PUSH (4 KEY)
S301	1-516-870-00	SWITCH, SLIDE
S302	1-552-625-00	SWITCH, SLIDE
S701	1-554-261-00	SWITCH, PUSH (1 KEY)
S901	△ 1-553-318-00	SWITCH, PUSH (AC POWER) (1 KEY)
S902	1-570-822-11	SWITCH, LEAF
T901	△ 1-448-928-11	TRANSFORMER, POWER
TB701	1-536-705-00	TERMINAL BOARD (SP)
TB901	*1-535-139-00	BASE POST 22MM (10MM PITCH) 2P
TB902	*1-535-116-00	TERMINAL

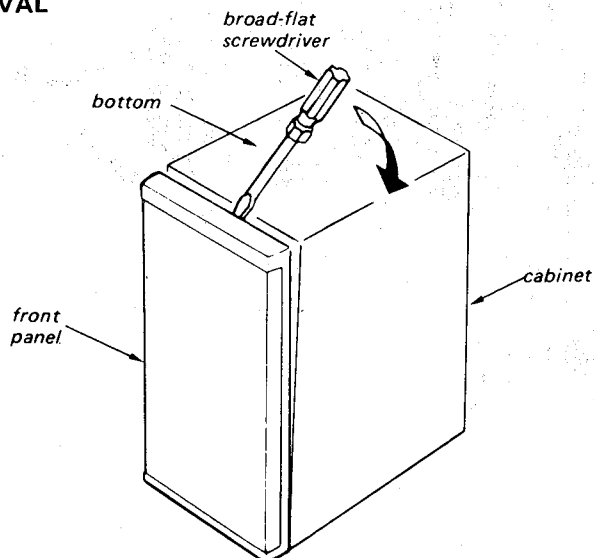
The components identified
by shading and mark △ are
critical for safety.
Replace only with part
number specified.

FH-204
FH-205W

SPEAKER SYSTEM (APM-205)

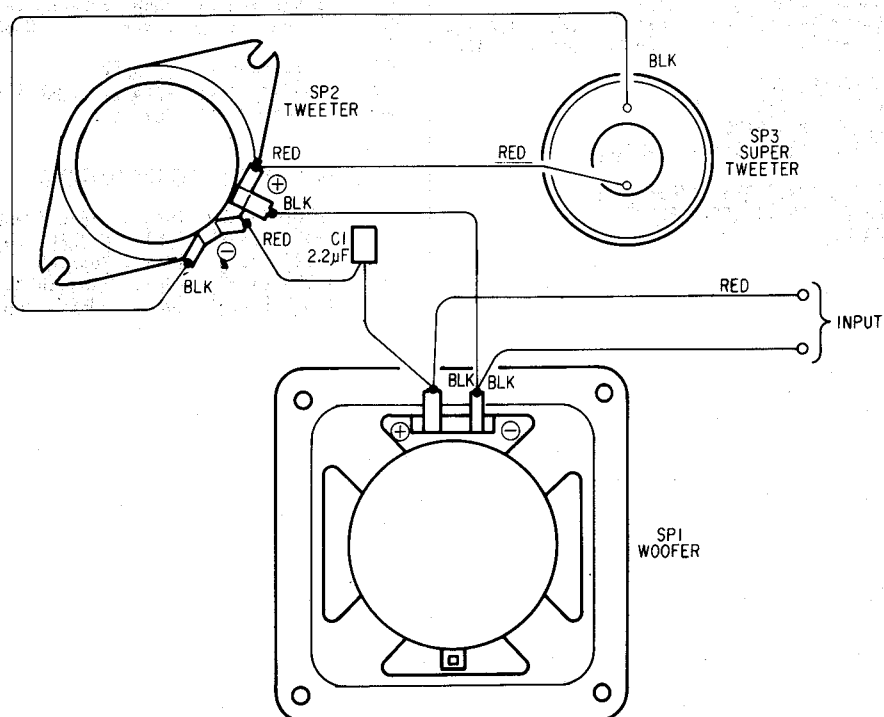
*Canadian Model
AEP Model
UK Model*

1. DISASSEMBLY FRONT PANEL REMOVAL

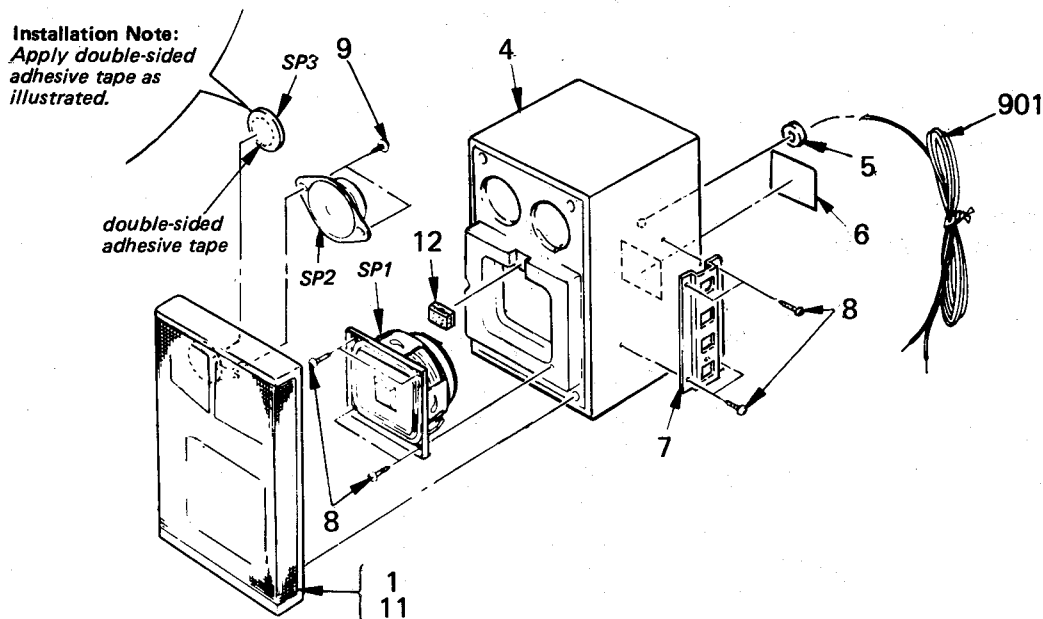


Note: Be careful not to scratch the cabinet.

2. WIRING DIAGRAM



3. EXPLODED VIEW AND PARTS LIST



No.	Part No.	Description	Remarks
1	X-4919-612-1	PANEL(LEFT) ASSY, FRONT	
4	X-4910-303-1	(Canadian,AEP,UK)...CABINET ASSY, SPEAKER	
	X-4910-308-1	(G-AEP).....CABINET ASSY, SPEAKER	
5	4-870-003-00	CLIPPER, CORD	
6	4-919-682-01	LABEL, MODEL NUMBER	
7	4-920-144-01	PLATE (B), SIDE	
8	4-874-614-11	SCREW (4) (3.5X14), TAPPING	
9	7-685-646-79	SCREW +BVTP 3X8 TYPE2 SLIT	
11	X-4919-611-1	PANEL(RIGHT) ASSY, FRONT	
12	*4-920-140-01	PACKING	

ELECTRICAL PARTS

No.	Part No.	Description
901	1-559-268-11	CORD, SPEAKER (A)
C1	1-123-544-00	ELECT 2.2MF 20% 50V
SP1	1-503-809-11	SPEAKER
SP2	1-503-795-11	SPEAKER, CONE (5CM)
SP3	1-529-053-11	BUZZER

ACCESSORY & PACKING MATERIAL

3-701-690-00	(UK)...LABEL (MADE IN JAPAN)
3-769-112-11	(UK)...MANUAL, INSTRUCTION
4-920-121-01	(UK)...CUSHION
4-920-159-01	(UK)...INDIVIDUAL CARTON
4-920-151-01	(UK)...SHEET, PROTECTION

TROUBLESHOOTING

The following checks will assist in the correction of most problems which you may encounter with your unit. Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Before going through the check list below, first pay attention to the following fundamental points.

- The power cord and flat cord must be connected firmly.
- The speaker connection must also be firm.

RADIO PROGRAM RECEPTION

The TUNED indicator flickers.	• Adjust the antenna.
The STEREO indicator flickers.	• Adjust the antenna.
Severe hum or noise.	• The signal strength is too weak. Connect the external antenna. See page 8. • Adjust the antenna. • Connect the ground wire.

CASSETTE DECK OPERATION

The ● button cannot be activated.	• No cassette in the cassette holder. • The tab is removed from the cassette. See page 12.
The ● or ► button cannot be activated.	• The tape is wound completely.
Tape does not move even when the ► button is activated.	• The ■ button is activated.
Recording or playback cannot be made or there is a decrease in sound level.	• Dirty heads. • Magnetic built-up on the record/playback head.
Excessive wow or flutter, or sound drop-out.	• Contamination of the capstan or pinch roller.
Insufficient erasure.	• Magnetic built-up on the erase head.
Increase of noise or erasure of high frequencies.	• Magnetic built-up on the erase head.
Unbalanced tone in higher frequencies.	• Improper setting of the DOLBY NR switch.

GENERAL

No audio.	• Slide the VOLUME control toward 10.
No audio from one channel or unbalanced left and right volume.	• Adjust the BALANCE control. • Check the speaker connections of the inoperative channel.
Reversed left and right sound.	• Check the speaker cord connection and speaker location.
Lack of bass sound or apparently imprecise physical location of musical instruments.	• Check the speaker connection for proper phasing.
No microphone sound.	• Slide the MIC LEVEL control towards MAX.
Severe hum or noise.	• The TV or VTR is too close to the stereo system. Separate the stereo system from the TV or VTR.